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ABSTRACT

Sixty fifth grade students participated in a study that investigated how children learn from a nonverbal film. The students were randomly assigned to one of four conditions where they were presented individually with (1) a film story, (2) a silent version of the film, (3) a descriptive audio version of the film's content, or (4) the same story recorded by a storyteller. After viewing or listening, the students were asked to recount the story, to mime incidents from it, to draw inferences about the story content, and to express their opinions of the story. Findings indicated that in their recounting of the story, the students in all groups showed a good grasp of the content. However, media differences were found in the individual events they recalled, with children in the descriptive audio group giving longer retellings and those in the film group retelling more of the central story content. In the mime task, children who saw the film showed greater sensitivity to the changes of pacing in the story by varying the pacing of their movements. In addition, film group students exercised more freedom in their verbal interpretations of the story, while the storyteller group students remembered and drew upon the provided information when responding to inference questions. The results demonstrated the capacity for a strictly visual medium to provide a comprehensible story to children in a format that also allows for diverse inferences and interpretations of its content. (Materials used in the study are appended.) (FL)

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HARVARD PROJECT ZERO

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Technical Report No. 26

WITHOUT WORDS: THE MEANING CHILDREN DERIVE FROM A NONVERBAL FILM STORY

by

Gail S. Banker and Laurene Meringoff

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Issued: October 1982

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Abstract

A study was carried out to investigate how children learn from a nonverbal film presentation. Children's verbal recounting, gesturing, and inference making were compared under conditions where they were presented with (1) a film story; (2) a silent version of the film; (3) a descriptive audio version reporting the film's content; and (4) the same story created and recorded by a storyteller. The Descriptive Aural presentation was meant as a control for the film story, while the Silent Film and Storyteller versions were used as further means for testing the researcher's hypotheses.

Sixty 10-11-year-olds were randomly assigned to one of the four conditions above and individually presented the story. After viewing or listening, children were asked to recount the story, to mime incidents, and to draw inferences about story content. Children's responses to these measures as well as their opinions about the story were compared across conditions to assess differences in their recall, interpretation, and appreciation of the material.

In their recounting of the story, children in all groups showed a good grasp of content and included over half of the main story events. However, medium differences were found in the individual events children recalled. Children who heard the story used more words in their retellings; the film audience, although offering shorter accounts, included as much of the central story content.

In the gesture task the children who saw the Intact Film and those who heard the Descriptive Aural version of the story were able to convey appropriate character affect. Children

who listened to the descriptive presentation were less constrained in moving about than those who viewed the film; the latter modeled their gestures on behaviors depicted in the film. However, children who saw the film showed greater sensitivity to changes of pacing by varying the pacing of their movements with each question.

Film children exercised more freedom in their verbal interpretation of the story by using diverse bases for and kinds of inferences. In comparison children who listened to the descriptive version limited their inference bases to the same few, which they used repeatedly when discussing varying story content. Children who were exposed to the Silent Film compared favorably with "Intact" film audience. They, too, used various bases to substantiate inferences about diverse story content. Children in the Silent Film group also showed the most sensitivity to the form in which the story was presented by offering comments and opinions about how it was made.

The Storyteller audience remembered and drew upon the provided information when responding to the various inference questions. However, children who heard the Storyteller version rarely used inferences or bases other than those provided.

The results of the study demonstrate the capacity for a strictly visual medium to provide a comprehensible story to 10- and 11-year-old children in a format which also allows for diverse inferences and interpretations related to its content. In comparison, the assertions verbalized in a more highly substantiated aural version of a story have the tendency to engage and inform children as well as to channel their inclination to draw inferences towards the information provided.

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WITHOUT WORDS: THE MEANING CHILDREN DERIVE FROM A NONVERBAL FILM STORY

A. Introduction

The room is darkened and the only thing that is clearly visible is a rectangle of light, slightly larger than a television screen, with black and white images flickering across it. A dark texture spreads across the rectangle and then magically erases itself until, finally, two shapes emerge from what had been a undefined mass.

From a source of sound somewhere in the darkness, we discern a male voice humming, then singing in an unfamiliar language. As the shapes on the screen define themselves into an owl and a goose, a female voice now takes its turn singing a song whose words we can clearly hear, but cannot understand.

A child sitting close by attends to this presentation, watching the screen for clues to the meaning of this unfamiliar Eskimo tale. Soon it becomes evident that few clues will be revealed by listening to the sound track, for the sounds we can hear are both familiar (when the goose's eggs crack open) and also very strange ones (the characters speak in Eskimo language) and there is no narration to help us. We are completely dependent on "reading" the visual images to discover what the story is about.

On an alternating schedule another child sat close by the researcher in that same room, this time listening to an audio cassette recording of the same Eskimo folktale, and heard the narrator describe the story images that the film viewer had recently seen,

Researchers have for some time been concerned with the way in which different media structure and present information and how that presentation affects the learning process. According to Salomon (1979) and others, the ways that media use symbol

systems (i.e. verbal language, line drawings, etc.) to represent content are their most important attributes for influencing learning and cognition. Moreover, the means by which messages are coded lend themselves to addressing different aspects of content; for example, the representation of movement (as when story characters perform) is more readily conveyed by a medium which itself can present information in dynamic form (Meringoff, 1980). As one consequence, a message conveyed by different symbol systems can differ in its informativeness (e.g., about a quality of movement), and can ultimately yield different meanings. Such differences in what information is communicated are likely to be accentuated when the content is novel or unfamiliar.

On the other hand, symbol systems often exist in common in various media, and may overlap with respect to essential aspects of content that they can convey (for example, a message with the same visual and verbal content, delivered on TV). However, Salomon takes exception to the assumption that all media are alternative routes to the same end or that they serve all types of learners equally well. By suggesting that not all attributes matter equally in learning, he indicates that we must identify those characteristics which differentiate modes of delivery, in order to make better decisions in selecting learning materials.

In traditional schooling there has been a history of bias in favor of verbal methods of learning (e.g., Olson, 1975) which, even after the advent of television, remains almost uninterrupted. Instead of reversing this trend, television has been looked upon by many educators as well as the general public as a primary obstacle to children's learning to read (Singer & Singer, 1979; Winn, 1977). While there is evidence in support of both sides of this question (Hornik, 1981) and television programs such as Sesame Street, have been shown to promote reading readiness (Ball & Bogatz, 1970), the verbal bias continues to exist.

1. Review of Literature

In comparison to the considerable literature on children's prose language learning, we know very little about how children learn from pictorial narrative. The little evidence we have suggests that children (and adults) exhibit highly developed comprehension of visually presented narrative material. For example, it has been demonstrated that children's comprehension of narrative presented audiovisually, such as television or movie plots, continually improves during the middle years of childhood (Collins, Wellman, Keniston, & Westby, 1978; Flapan, 1968). Collins examined how children in grades 2, 5, and 7 processed information obtained when viewing televised plots, and looked particularly at the different skills used by younger and older children when presented with an existing action-adventure television program in two differently edited versions.

When recognition and recall measures were used to test children's memory for central content, it was found that memory for all content categories improved across grade levels. Regardless of how many scenes were presented or how they were organized, all except the youngest children remembered implicit content (that which must be inferred by the viewer) better in temporally ordered versions. Older children did significantly better with implicit content items when they were able to recall the relevant central content. Collins' study provides evidence that there is an increase in recognition and memory for central plot information and in children's ability to sequence events, from the preschool years through the late elementary years and beyond.

In Flapan's study of film, there was also evidence suggesting a definite developmental progression in children's use of inferences and social perceptions about narrative content. The study used sound-film clips depicting episodes of social interaction. Children ages 6, 9, and 12 were asked to recount what happened and then were asked questions meant to elicit interpretations or explanations of specific events within each of

five episodes in two films (movie "A" and movie "B") which were shown a week apart. The film was stopped after each episode and a detailed description of content was elicited. Specific questions focused on how a character felt, what (s)he said or did, and/or why (s)he acted that way. Children's recounting was scored for three categories: (1) report-describe, (2) explain, (3) infer-interpret.

Consistency in the way both films were discussed (e.g., the number of statements made) showed a developmental trend. Younger children did not include motives as often as the two older groups. More of the older children made inferences about feelings, thoughts, or intentions not explicitly expressed or specifically labeled. Six-year-olds used reporting statements but did not inferences or interpretations.

Results indicated that simple reporting and description of content is used earlier than explanatory statements, and the latter before statements of inference or interpretation. Accordingly, Flapan's data suggests that explanations in situational terms (action, events, and literal repetition of dialogue) occur before the use of explanations in psychological terms and that psychological explanations occur before the use of explanations in terms of interpersonal perceptions.

Based upon the findings of these and other researchers we decided to select children at the upper elementary level for the present study. We, too, sought to learn whether children could recount and make inferences about a film story, but our study differed from those previously described in that the film we intended to use had no verbal content. Relevant to our work was a study by Frith (1975) which presented evidence that older children (ages 9, 13) make more effective use of certain formal conventions of filmmaking when presented with two versions of a silent film. One film preserved "correct" directional movement of the subject across cuts, the other did not.

Children ages 7, 9, and 13 were shown either a "correctly" or "incorrectly" edited version of the film. When asked to

arrange a series of picture cards in the same order as the shots in the film sequence, the 7-year-old's performance was significantly poorer than that of older children, regardless of which version of the film they had seen. Both 9- and 13-year olds performed better in reconstructing the order of film shots after viewing the film which obeyed the rules of directional continuity than after viewing the one in which these rules were deliberately broken. This would indicate that such rules aid both perception and memory. It appears that by this age, the older children already have apprehended certain formal conventions of filmmaking that should help them understand silent film.

This silent film study, as well as the two studies previously mentioned, informed us about the way our choice of material (nonverbal film) and choice of children (upper elementary level) might correspond. Frith focused on the formal aspects of a visual presentation, but in a more recent study, Messaris and Gross (1977) examined some of the same developmental issues with reference to issues of content.

Messaris and Gross were interested in the kinds of inferences subjects of different ages would draw from a purely visual narrative. They presented a narrative sequence of photographic slides to 2nd-graders, 5th-graders, 8th-graders, and college students. No words were used in conjunction with the slides. The narrative sequence depicted a man interacting with several other people. From the context in which he was shown one could infer that he was a doctor.

It was found that all subjects could make sense of the narrative. However, the younger viewers (2nd- and 5th-graders) made the inference that the man was a doctor and used the story to support the social stereotype they held of doctors as "persons who help people." These children "attributed" certain qualities to the man in the photographs because his actions appeared to confirm their real-world experience. The younger viewers failed to report that the "doctor" had not helped

during a critical incident in the narrative, thereby promoting the "good doctor" stereotype and ignoring given facts. Little of this tendency was found among the older viewers (8th-graders and college students) who did not fail to report that the doctor had not helped, and made explicit references to "implications" by the author. These inferential interpretations were grounded in the older viewers assumptions concerning the authors' intentions.

According to Messaris and Gross, because inference entails a presupposition that a narrative is a deliberately implicational construction, the results of their study demonstrated that inferential skills are learned later than attributional ones and that there are age-related differences in criteria for reality. For our purposes this demonstration of developmental skills in the interpretation of a nonverbal narrative offered us positive indication that strictly visual story materials can have meaning for children, albeit that the degree of meaning would depend upon their level of development.

2. Purpose of Study

This study was designed primarily to answer two questions:

1. Do children read visual story images meaningfully? (To what extent can children recount, reenact, interpret, and appreciate a story conveyed visually?)

2. How is that meaning distinctive for having been visualized?

We addressed the first question by presenting children with a story film whose delivery of meaningful content did not depend on verbal language, and then tested them for various learning outcomes.

In order to evaluate the distinctiveness of this learning (i.e., the second question), it was necessary to compare the meaning children acquired from viewing the film with that obtained from experiencing the story via some other means. To that end, we used a method of comparing story apprehension

across media that was devised by Meringoff (1980). In that study, Meringoff compared children's learning from a picture book version of an African folktale with that of an animated video version of the same story. It was found that children who were presented the picture book drew inferences based primarily on the text, on personal experience, and on world knowledge, while children who had seen the video version of the story relied more on visual content as a basis for their story inferences. The two groups also differed in their retellings of the story. The former picture book group used more "expressive" story language, while the latter video audience included more story actions in their retellings.

In the present case we added a comparable story told aurally. By pitting words against moving pictures we would be able to study the effects of either pictures or words on children's understanding of a story. Previous studies (Gat, Beagles-Roos, Geber, & Greenfield, 1981; Vibbert & Meringoff, 1981) had found that children who are presented a film story more often base their inferences on within-story visual information, while children who hear an audio presentation more frequently draw upon personal experience or general knowledge to substantiate their inferences. Although based upon adults' responses to either a nonverbal film or an audio version of the same story, Baggett (1979) found that cued recall of central content was similar for both media (but deteriorated more quickly for audio subjects than for film subjects); she also found that details were better recalled from the film.

We wondered how the absence of verbal language in a film story would affect children's story recall and understanding. Without the aid of words, would children be as able to remember given visual story content and draw upon it in making appropriate inferences about the plot and characters? The pursuit of an answer to these questions was the point of departure for the present study. More specific hypotheses motivating this study are mentioned in the Response Measures section.

B. Method

1. Sample

Sixty children ages 10:6 to 11:6 participated in this study. It was determined after pilot testing that children of this age were able to perform all the required tasks. Four fifth-grade classes from one elementary school in Watertown, Massachusetts provided the subjects. The children were ethnically heterogeneous and equally divided between boys and girls. They were randomly assigned to one of four story conditions: Silent Film (SF), Intact Film (IF), Descriptive Aural (DA), or Storyteller (SA). Each subject was presented the story individually.

2. Story Materials

The Film. In our search for a film whose content was essentially nonverbal, an 8-minute animated film titled: The Owl Who Married a Goose, an Eskimo Legend, produced by the National Film Board of Canada (1975) was selected because it met this criteria. In addition, both the story and the film were unfamiliar to the children.

The film's imagery is spare in detail. It consists of black and white illustrations of animal-like shapes drawn in sand. The sand gives a special textured quality to the characters' solid forms. The animals travel on the ground, through the water, and in the air using immediately recognizable and characteristic movements, even though the ground, water, and sky are not depicted. Instead, the space that these characters move on, in, or through is only suggested by an occasional spare use of line. Most of the time, the unembellished screen surface serves as background for the action. The movement looks like a compromise between conventional cartoon movement (which is usually depicted in a flatter way and at an unrealistic pace) and the more fluid movement of animals presented in live-action nature films.

Story Synopsis

A goose is building a nest. An owl comes by and watches. While the goose sits on the nest, the owl entertains her and they express affection for one another. The goose's eggs begin to hatch and little goslings come peeking out. They walk into the pond where the goose teaches them to fish. The owl does not go into the water, but paces around the edge of the pond watching the goose give the little ones a lesson in catching fish for their dinner. The goslings soon learn to fish on their own and the goose, remembering the owl, tosses a fish to him. Standing at the pond's edge when the fish lands beside him, the owl picks it up and throws it back into the water.

Then snowflakes begin to fall. The geese begin practicing their flight for a long journey. Before her departure the goose gestures toward the sky indicating to the owl that they must leave now. The owl decides to fly with them. After they fly past the sun and the moon, the geese land on a pond and the owl drops from the sky into the water. Splashing down into the middle of the pond, he sinks under the water. The goose pulls him out and with this head above water, the owl sees his reflection and blinks at it. The goose calls to the owl from some distance away, but the owl no longer has enough strength to keep up with her and slowly sinks beneath the water.

Although the images alone convey the story adequately (the silent version) the film includes an unusual sound track. The film's sound track is a combination of Eskimo dialogue and sound effects (e.g., breathing, goslings quacking, eggshells cracking, and the sound of water). There is no narration. Therefore, the sound track alone cannot communicate the story content.

The Descriptive Aural Version. To create an aural control condition, a panel of six adults viewed the film in 30-second segments and each person wrote down his own impressions of the actions and events for every segment. Construction of a descriptive version of the story was based upon the consensus

of the panel. We strove to describe the film's story accurately, but without drawing inferences or giving other information that was not made explicit. For example, when the goose and her goslings go into the water and leave the owl behind on the shore, the description accounts for the owl's behavior but does not assert how he felt. For example:

> The owl looked after them and then he looked straight ahead and blinked. His eyes drooped down. He blinked again and walked toward the water, breathing heavily.

Dialogue was omitted for the same reason, inasmuch as the film's dialogue is in the Eskimo language. At places in the film story sound track where there was Eskimo dialogue, the descriptive version of the story made reference to the characters' speech without indicating what was said, e.g., "The goose, seeing it was owl in the water, dipped her head under and gently pulled him out . . . and spoke gently to him."

In order to make this worded version more comparable to the film, we mixed the film's sound track in at the appropriate places in the narration when we recorded it. (This addition of sound effects from the film lengthened the Descriptive Aural version by two minutes.)

The Storyteller Version. Though we now had an audio version of the story empirically adequate to compare with the film, that version lacked a certain vitality or "esprit"; it was not a real world story. For this reason we called upon a storyteller to create a story inspired by the film, a version that could stand without the constraints of comparability to which researchers are subject. As one consequence, content (such as characters' feelings) was asserted in this version to express what the film was agreed to imply. To keep the narrator constant, the storyteller recorded both her own product and the descriptive version of the story.

Following, are two excerpts from the storyteller's version. For purposes of comparison they were selected from the same

points in the story as the examples given on the previous page, from the Descriptive Aural version.

> Owl's wife led the babies to the lake. One, two, three, four, five, they swam behind their mother. Owl followed. But when he put one foot in the water, it was cold. He put his other foot in the water, it was wet. . . . Owl thought, "It's too deep."

and,

> Owl lost control of his wings and went tumbling into the dark sea. All the geese fled. But not owl's wife. She reached into the water and lifted him up. Owl's feathers were heavy with water. "You must rest here until I return," said goose.

3. Procedure

Children in each condition were interviewed individually (after obtaining written parental permission from all potential subjects) in a small (approximately 6' x 10') room located off the school's library. After a brief warm-up conversation the experimenter explained that "I want you to watch/listen carefully because we will go over the story later." The children either viewed one of the film versions (projected slightly larger than the size of a 19-inch TV screen at a viewing distance of between five and six feet) or listened to an audio cassette of either the Descriptive Aural or Storyteller versions of the story. In all cases children sat near the researcher. Following the story presentation, subjects were asked to perform several tasks which engaged them for about 35-45 minutes.

All responses from subjects in the Intact Film and Descriptive Aural conditions (the two most highly comparable conditions were videotaped. Responses from subjects in the two remaining conditions were recorded on audiotape.

4. Response Measures

In order to evaluate the meaningfulness of this story, it was necessary to engage the children in a variety of tasks. For example, different kinds of learning were solicited, such as free recall, inferences, and opinions about the story. Presentation of this story in both aural and visual media also emphasized the need to obtain responses across different modalities, particularly those used by each medium; therefore our tasks included both verbal and nonverbal response measures.

Verbal Measures: Re/telling and Inference Questions. In order to determine children's recall and grasp of the story, we asked all subjects to recount the story immediately after its presentation: ("Now I'd like you to tell me the story as well as you remember it. Do you remember how it began?"). The verbal re/telling of the story was meant to elicit a spontaneous, immediate response: for children who heard an aural version of the story, the task could be one of recalling previously spoken (and sounded) prose; for film viewers, the task entailed creating a worded version based upon the moving pictures.

Because we administered this measure first, and before any specific probes, children had the freedom to relate fresh impressions of their recent experience. Being such an open-ended format, this recounting task allowed for a wide variety of individual perceptions. The re/tellings could be analyzed to see how well children constructed the main story line, included other content, (e.g. sound effects, dialogue), and drew inferences about characters, events, and elapsed time. It was our hypothesis that children who saw the film would be as good at, or better at recreating the story line, even though they would have to express their impressions in words. We anticipated that film children would also include more visual detail or incidental visual content in their recountings.

In addition to the re/telling task, children were asked open-ended questions designed to solicit inferences about specific story content, and to determine the bases upon which

their inferences were made. We predicted that the film audience would perform as well as or better than children who had heard the worded versions when drawing inferences about characters' feelings, thoughts, motives, and their relationship to one another; however, their inferences might be different in kind and source. We expected more varied inferences from film children, especially from those in the Silent Film condition, and the least varied from children who heard the Descriptive Aural version of the study.

Finally, we asked children to tell us which of the characters they identified with ("If you could be one of the characters in this story, who would you want to be? Why?"). We expected that children would identify either with the protagonist (the owl) or with the same-sex character. Then we asked children what they thought would be a good title for the story, whether or not they would recommend it to others of their age, and for a rating of the story on a ten-point scale.

Nonverbal Measures: Reenactment/Gestures. Children's spontaneous and aided recall and interpretation of the story were also solicited in mime. First, children were asked to reenact any part of the story they chose, using only physical gestures and no words. Use of this free choice task was intended both to give children orientation to an unfamiliar task and to inform us about which character behaviors they found salient enough to dramatize. In addition to the free choice task, we asked subjects to show us how a character behaved at four selected moments in the story where a character clearly conveyed some emotion.

The gesture task was devised to enable children to demonstrate their understanding of story content in a modality (physical behavior) which film viewers observed directly and one which did not require use of verbal language. Having the children who heard the Descriptive Aural version also carry out this task allowed us to compare children's gestured performance across medium. We reasoned that by giving children the

opportunity to express a character's feelings in a modality other than verbal language, film children's gestures would be more expressive of affect than those of children in the Descriptive Aural condition. We also expected that children who saw the film would be able to convey nuances of the characters' movement represented in the visual presentation.

To clarify and supplement this behavior data, each of the requests for a nonverbal response was followed by an opportunity to offer a verbal response to the same question, e.g., the question "Can you show me how the owl and goose reacted when the eggs began to hatch?" was followed by: "Now tell me what their reactions were. In two questions we also probed children about the basis for the feeling that had first been depicted and then described. For example, the depiction opportunity was elicited by: "I'd like you to show me how the owl looked when he was trying to keep up with the geese." This was followed by two questions: "How did he feel then?" and "How do you know he felt that way?" Finally, we provided children with one other opportunity to use verbal expression in conjunction with their gestures, by creating speech for the character, as in: "Now show me how the owl reacted when his foot got wet," followed by: "What did the owl say to himself then?" and then "How did he feel?" Thus, our response measures gave children in both medium conditions a variety of opportunities to demonstrate their ability to express meaning derived from the story.

It was our expectation that children who experienced a visual presentation of the story would perform at least as well, and perhaps better in all the tasks we administered, as children who experienced the story presented aurally.

C. Findings

1. Gestures

Scoring

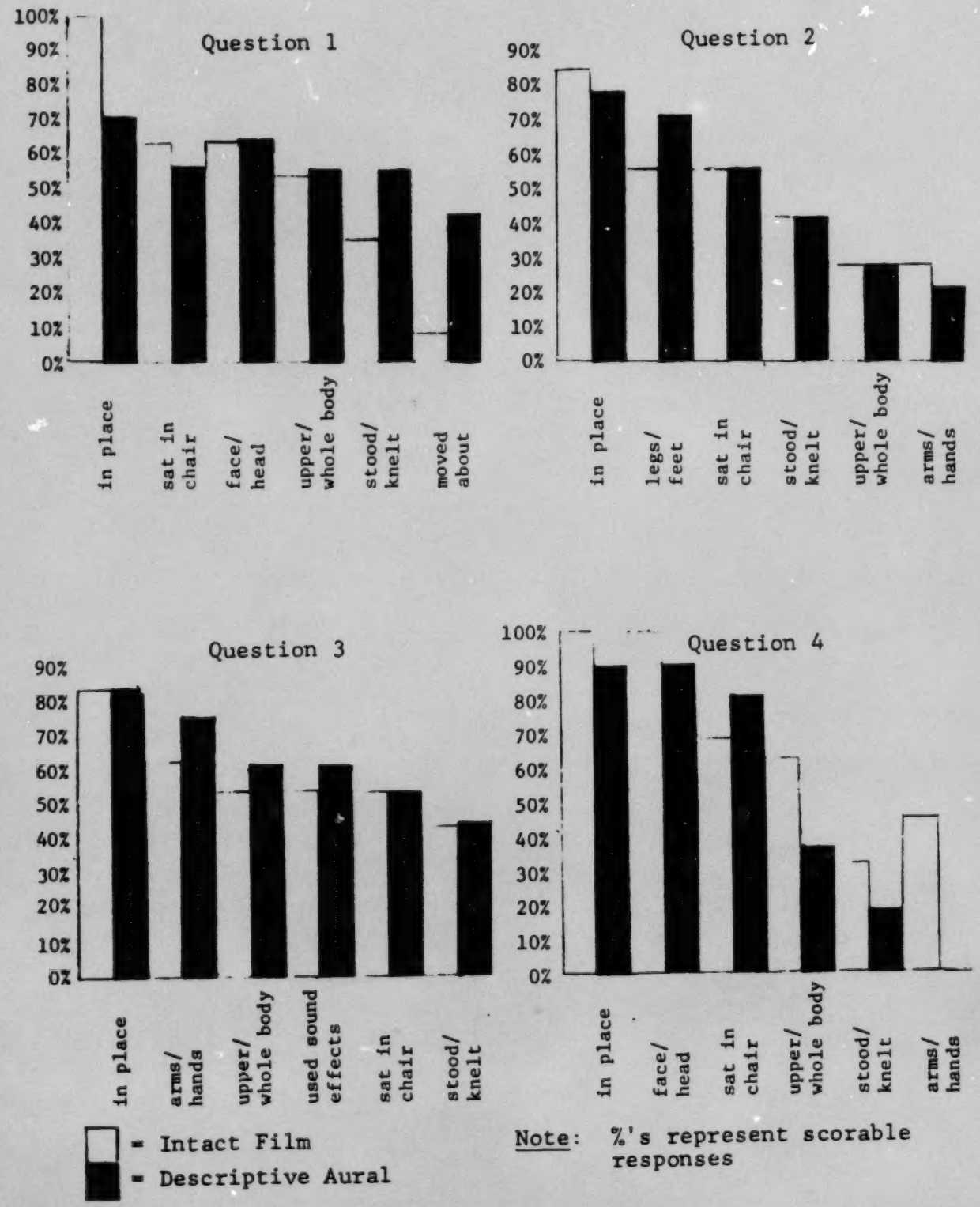
Scoring for gestures was done from careful and close scrutiny of the videotaped record of the performance of each of the subjects in the Film Intact (IF) and Descriptive Aural (DA) conditions.

We classified the story content that children chose to act out (free choice) to see if there were between-group differences in the choice and range of character behavior depicted. These gestures were then scored for recognizable behavior within the story context.

For all the gestures (free choice and four requested) we examined the means children used, i.e., which parts of the body they used; arms/hands, face/head, legs/feet, the upper or whole body. We scored for the use of hands as character(s) and whether or not the child used sound effects. Responses were also scored for whether or not children remained seated or if they stood and/or knelt down; whether they gestured in place and/or moved about within the available space. Pace of movement was also scored, i.e., if the gesture was performed at a slow, average, or fast pace, whether there was a range of pacing within the performance, and whether the duration of performance was short or sustained. In addition, we examined to what extent children made an effort to define the space in which the character moved, i.e., by whether or not they established and sustained a boundary for a prop or for setting with their body, for example, to act out "the goose makes a nest":

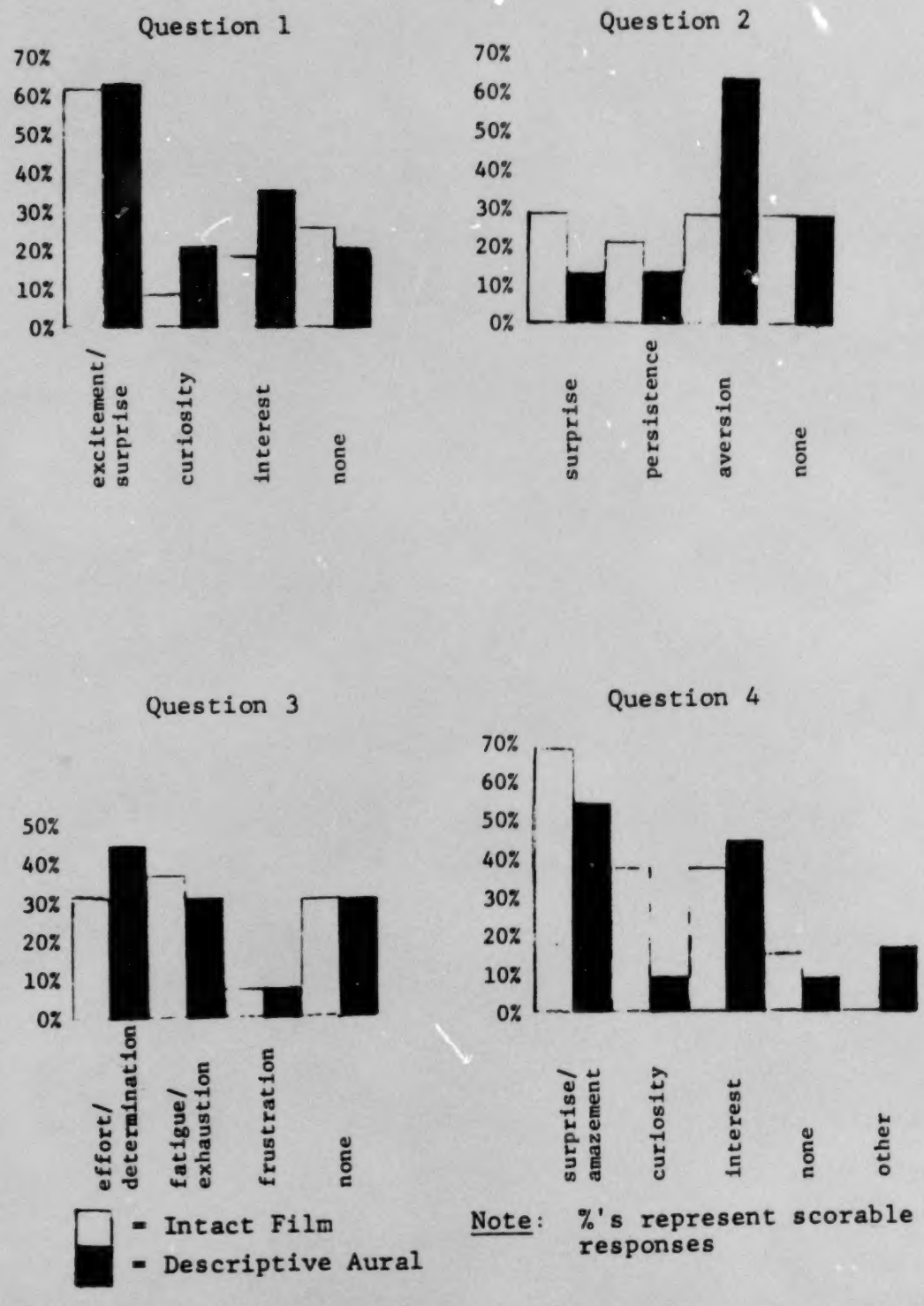
> (IF) Seated, arms outstretched in front of body, subject pulls "something" out of the air and puts it into place in space in front of her. Action is repeated several times, then subject arranges "picked" material in a circle defined in space around her.

Figure 1
Means Findings



Note: %'s represent scorable responses

Figure 2
Affect Findings



b. Question One

"Can you show me how owl and goose reacted when the eggs began to hatch?"

> Text: Just then, as the owl was about to answer the goose, something he heard interrupted him. (Cracking sounds.) The goose heard it too and she quickly got up off the nest. When they peered into the nest, it was full of eggs. The eggs were jiggling and shook. As the eggs cracked open, little goslings came peeking out.

In Question One the means* most often used by children in both conditions were: remaining stationary and/or seated, and using the face and head, upper and/or whole body. Medium differences were also observed in the means used, in the greater use of standing/kneeling (in addition to sitting in chair), by children in the Descriptive Aural condition (57% vs. 36%), and their more mobile performance than Intact Film children (42% vs. 9% moved about). In addition, half the Descriptive Aural children performed at a fast pace compared with 27% of children in the film condition.

Children in both conditions performed similarly in conveying affect; using the aforementioned means (i.e., face, head, and upper/whole body), more than half (IF 63%, DA 64%) were able to convey excitement/surprise. While the other affects were less frequently expressed by both groups, about a third (36%) of DA children conveyed interest compared with only 18% in the film group. Following are examples of responses to Question One from each condition.

> (IF) Seated in chair, subject jerks head back fast, shoulders too, eyes widen and mouth opens.
>
> (DA) Subject gets down on knees and jiggles upper body up and down.

c. Question Two

"Now show me how owl reacted when his foot got wet."

---

*To follow analyses of these findings, see Figures 1 and 2 on the previous two pages.

Finally, and possibly of most importance, we were interested to see if children conveyed a specific mood or affect (most often through facial expression and sometimes through pacing) each time a character was depicted. In order to score children's gestures for affect, the film was screened by three adults and emotions that might reasonably be attributed to the character's behavior were identified. Then a list of these affects, three per question, was made for each selected moment in the story. The children's performance on each question was scored for affect one, two, and/or three, i.e., for as many appropriate affects as were clearly identifiable, or for no affect. A fifth affect category, "other" (emotions not initially identified from the film) was also included in the scoring. Unscorable responses comprised refusals to respond or responses that followed prompting from either a picture (IF) or text cue (DA).

To establish reliability, one-third of the gestured responses from each condition was scored by an independent judge. Differences in scoring were resolved through discussion. Agreement on the total number of scores for each question ranged from 82% to 96%. The mean agreement achieved across all questions was 88%.

Gesture Findings.

a. Free Choice

"I'd like you to choose an incident in the story that you would like to act out for me, without using words, and we'll see if I can guess which place you chose."

Considerable variation was exercised in children's free choice gestures, with at least twelve different story events chosen for depiction. Since choices were spread out over so many different events, it cannot be reported that any single event was most salient. No significant medium differences were found in children's choices. Behavior was recognizable in 86% of DA responses and 93% of those of film children.

Text: Suddenly, he stumbled, lost his balance and got one foot wet. (Water sound.) He quickly backed away from the water with the other foot . . . . The owl again tried dipping his foot into the water, but he looked up, rolled his eyes, and cringing, removed his foot. He took a small step away from the water, blinking (and) shrugging his shoulders."

Most means were used to the same extent by both groups in Question Two. The most common response was to move legs/feet while remaining in place (half the children in each group remained seated). However, although both groups used legs and feet, a logical response to the question, children in the Descriptive Aural condition made greater use of this means. As in Question One, a tendency toward faster pacing was observed among the Descriptive Aural children.

In conveying affect, children in the Descriptive Aural group showed a strong aversion affect, possibly due to use of the word "cringing" in the text. Film children's affective response was spread out more evenly over the three affect categories.

Examples of gestures for Question Two:

(IF) Subject stands, points right foot forward, then quickly withdraws it. Repeats gesture.

or

(IF) Seated, subject shudders, closes, then opens eyes.

(DA) Down on one knee, subject extends other foot out, grimaces, puts foot out again; draws it back again.

d. Question Three

"I'd like you to show me how owl looked when he was trying to keep up with the geese."

Text: The owl was trying very hard to keep up their pace and he was breathing very heavily from the effort. (Sound of breathing.)

In Question Three both groups behaved quite similarly. Although children from both conditions primarily gestured in place, almost as many children from each group either stood or sat (in chair). However, while arms/hands were used by children in both groups, those in the Descriptive Aural condition used this means more extensively. There was also considerable voicing of sound effects by children in both conditions, reflecting the owl's breathing heard on both groups' sound tracks.

Again, there was a medium difference in the pace of children's performance ($\chi^2(4) = 8.46$, $p = .076$, Cramer's $V = .57$); more film children performed at a slow pace (46%) than Descriptive Aural children (8%).

The expression of affect was similar in both groups. Effort/determination was evident in responses of slightly more children in the Descriptive Aural condition, while about a third of children in both groups conveyed fatigue/exhaustion.

Gesture examples:

(IF) Subject remains seated, opens mouth and breathes audibly, rhythmically. Shoulders move up and down to rhythm.

(DA) Subject stands, bends arms at elbows and tucks them in close to body. Elbows flap up and down quickly. This is performed twice.

e. Question Four

"Can you show me how owl reacted when he noticed his reflection?"

Text: The owl extended his wings on either side of his body to support himself on the water's surface. When he looked downward he saw himself reflected in the water. He began to examine his reflection more carefully, winking at it first with one eye and then the other eye. When he looked up, he just shrugged his shoulders.

Question Four showed the most promise for medium differences. Although both groups primarily remained seated, gestured in place and used face/head, there was significantly greater use

of arms/hands by children in the film condition ($\chi^2(1) = 4.53$, $p = .033$, Phi = .53). Note that owl's spreading out his wings as he studied his reflection was given both a visual and a textual cue.

Surprise/amazement was the most frequently identified affect for both groups. More than a third of each group conveyed interest. The higher incidence of affect demonstrated by children in this question, compared with Questions Two and Three, corresponds to the greater use of face/head as the primary means chosen by both groups to deal with the question.

Gesture examples:

(IF) Subject seated, looks down, shifts head slightly from side to side, widens eyes, stretches arms out to either side.

(DA) Subject seated, eyes widen for a fleeting instant.

f. Comparison of Gestured and Verbal Expression of Affect (See Table 1)

When we compared children's gestured expression of affect with their verbal responses to the same parts of the story, we found that their physical expressions of affect and their verbal responses matched a third of the time, differed about a third of the time, and that only verbal responses were offered a third of the time. This suggests that it is easier for children to explain characters' feelings in words than in gestures. Perhaps this is because they are more practiced and less inhibited at being verbal. In addition, to some extent the two modes may allow for different things to be expressed. At the same time, the fact that a third of these children responded commonly in two different modes suggests the underlying consistency in their understanding of the characters' feelings.

Table 1

Comparison of Gestured and Verbal Expression of Affect

	Intact Film (N = 15) %	Descriptive Aural (N = 15) %	Total Sample (N = 30) %
Question 1 (Eggs begin to hatch)			
Matches	33	33	33
Different	13	20	17
Verbal only	47	13	30
Gesture only	6	27	17
No affect	--	6	3
Question 2 (Owl's foot got wet)			
Matches	6	27	17
Different	47	40	43
Verbal only	33	33	33
Gesture only	13	--	6
Question 3 (Owl tried to keep up)			
Matches	33	27	30
Different	27	33	30
Verbal only	40	33	37
Gesture only	--	--	--
No affect	--	6	3
Question 4 (Owl noticed his reflection)			
Matches	27	27	27
Different	40	40	40
Verbal only	20	33	27
Gesture only	6	--	3
No affect	--	--	3

g. Summary

Except for film children's use of arms/hands to depict the owl's reaction in Question Four, no significant medium differences were found in the means children used across questions. Meaningful gestures were consistent with question content; the content of each item dictated the strategies children used for their gestures. For example, Question Two and Three had in common behaviors which involved the use of limbs. Therefore, it was not surprising to find that both groups behaved similarly in those questions with more frequent use of legs/feet in Question Two and corresponding use of arms/hands in Question Three. The greater tendency of children in the Descriptive Aural condition to use those means as a logically consistent, but more obvious and ultimately easier route than children in the film condition, may be considered a medium effect.

It also became evident that use of the head and face were the means which were most expressive of affect. The use of facial expression could quickly and easily convey a character's emotion, even with minimal use of other means. That means was used most often by both groups in Questions One and Four, where the most frequent instances of affect were found.

Duration of performance across all questions was more often than not sustained. While the pace of Film Intact children varied with the question, children in the Descriptive Aural condition tended to perform at a relatively faster pace in all questions. For example, more children in the Descriptive Aural condition performed fast in Question One (hatching), while more in the film group used a slow pace when performing in response to Question Three (Owl flying). In fact, Question Three was the only one in which a response reflected variation in pacing; ranging from slow, to average, to fast, within a performance. This single instance was found in the film condition.

Contrary to expectations, we found no significant medium differences in the way children defined space, although there was a slightly greater tendency to do so by film children. We

believe that responses from both groups were inhibited by the confined space in which they were asked to perform. As a result, children's responses, in general were an effective, albeit superficial handling of the task.

h. Discussion

Following are some factors that may help to explain the lack of differences in the two groups' performance: First, the film was pictorial but abstract, not photographic, as in live-action films. For children this presentation was somewhat alien to their expectations and the modeled behavior was relatively subtle. It certainly was not as broad as behavior in conventional Saturday morning TV cartoons. Yet, for all their subtlety, the behaviors depicted were familiar ones, such as shrugging shoulders or widening eyes. Second, fifth graders seem to be able to make appropriate inferences about characters' reactions in these situations without much difficulty. They had little trouble imagining how a character would feel, and were therefore able to deliver an adequate performance without ever having seen the characters. Finally, the response measure itself was designed to elicit miming of specific events, in order to make children's behavior comparable for analysis across groups. This also seriously limited the range of behavior that children were able to show us.

Although the film material we worked with lacked certain novel and conspicuous behaviors which may be needed to show the distinctive impact that film presentations can have on children's behavior, we still credit the potential of visually conveyed stories as a means of eliciting more expressive and detailed gestured information from children than prose presentations. When we did a follow-up interview with a small group of 7-year-olds presented the Intact Film, we found that they, too, could enthusiastically and without inhibition, use gestures adequately and appropriately. Their gestures were particularly expressive when demonstrating the characters' qualitative

behavior. This evidence suggests that children's story-related performance may also contribute substantially to their understanding and appreciation of a story's events and characters.

2. Verbal Tellings

Scoring

Barebones of the story line. To assess what part of the story's central content was included by the children, a sample of six adults were presented with each version of the story, and then asked to list the main events. Events that were included by a least half the people who responded to each version constituted the barebones or skeleton plot. These events are listed below in chronological order.

1. The two main characters, an owl and a goose, are introduced. ("It was about an owl and a goose.")
2. The goose builds a nest. ("She was making a nest.")
3. The relationship between the goose and the owl is established, either by describing behavior ("Goose and owl spoke in hearts to each other.") or by making an inference about their feelings toward each other ("They were friends.").
4. The goose and owl produce baby geese. ("The duck hatched the eggs.")
5. The goose and goslings go swimming in the water. (The goose was teaching the babies how to swim.")
6. The owl does not go swimming in the water. ("The owl he stepped into the water but he didn't go into the water, he stepped out.")
7. The goose and goslings eat. ("The goose picked out a fish to eat . . . and she gave the other one to the young ones.")
8. The owl does not eat the fish that the goose gives him. (" . . . and the mother goose threw a fish to the owl and the owl pushed the fish back in the water.")
9. The geese fly away.

10. The owl flies too. ("And he flew too.")

11. The geese land on the water. ("So they landed in a pond or lake.")

12. The owl lands in the water and goes underwater. ("The owl fell down into the water.")

13. The goose rescues him. ("She picks him up out of the water.")

14. The owl sinks under the water and drowns.

Additional story content provided by the children was accounted for in the following ways.

Other events. Credit was given for each additional action or event not included in the barebones story line. These events are considered incidental content. Each event included a subject and an active verb (excluding verbs relating to speaking, thinking, wishing, feeling, hearing, and seeing), and correctly described what a character did in the story ("A fish jumped up out of the water," or "The owl kept pacing along the shore.") Incorrect events were recorded separately. An event was considered incorrect when it was readily agreed to contradict or be extraneous to what was shown or told.

Sound effects. Record was kept of references that children made to information that was presented as sound effects (wind blowing, breathing, bubbles, eggs cracking). In cases where the sound was also identified in the verbal text ("He was breathing very heavily," or "The only answer . . . was the sound of bubbles under the water"), the reference was scored for a sound effect only if a character was reported to hear it. Sound effects were used only in the Intact Film and Descriptive Aural versions; however, all the children's tellings were monitored for sound effect content.

Physical inferences. Included here were inferences made about physical dimensions of characters: in particular their abilities ("Owl couldn't swim"), their physical state ("The

chicks were hungry," "Owl got tired"), and their appearance ("Owl was too fat"); of events: ("Owl waited along the shore," "They went into the water to rest"); and of the environment: ("The water was too cold").

To qualify as an inference, the information had to go beyond what was made explicit in the story. For the film and Descriptive Aural versions, there is consistency in whether or not a given response invokes an inference. However in the Storyteller version, information is asserted verbally which is only implied in the other conditions. As one consequence, what was an inference for children who were re/telling either the film or descriptive version (the owl didn't swim because "the water was too cold") was a restatement of given content for children recounting the Storyteller version. No reason was given for the owl not swimming in the film and Descriptive Aural versions. However, we first scored the children's responses the same way (e.g., to be inferences), regardless of the story condition. Then we could compare how often children include story content in their tellings which is either implied by verbal description, implied by visual depiction, or asserted verbally.

Time. Credit was given for references made to a state of time ("It was night," "It was winter") and to the passage of time ("They flew a long time"). Again, many of these time observations were inferences for children exposed to the film and Descriptive Aural versions, but recall of given content for those who heard the Storyteller version.

Example of time information presented:

(SF) "Seeing snowflakes falling."

(IF) "Seeing snowflakes falling, wind sound."

(DA) "Snowflakes were falling, wind sound."

(SA) "It was winter."

The remaining scoring categories pertain to characters.

Dialogue between characters. Credit was given when children indicated character speech, either by referring simply to its occurrence ("Then she called to him"), or by supplying its content ("Rest here. I gotta go."). Each sentence or discrete idea was counted as a unit of scorable dialogue.

Character perceptions. To be scored as a perception, hearing or seeing had to be attributed to a character ("Owl heard goose talking," "The goslings watched the goose," "Owl saw his reflection").

Character thoughts. Attribution of ideas and knowledge to characters was credited as character thoughts ("Goose decided to make a nest," "Owl found out he wasn't that kind of bird").

Character feelings. Included here were references made to characters' feelings ("Owl felt left out"), their preferences ("Owl didn't like fish"), and to their motives ("Owl wanted to fly with her.").

Finally, total number of words used by children to tell the story was counted.

To establish reliability, an independent judge scored one-third of the tellings from each condition. These scores were compared against those given by one of the experimenters. Mean agreement in scoring of 93% was achieved for the barebones story line. For inclusion of additional events and other content, there was 91% mean agreement, with agreement on the scoring of individual categories ranging from 81% to 100%. Discrepancies in scoring were resolved through discussion.

Tellings Findings

Reiterating the barebones story line. On the basis of a one-way ANOVA, no medium differences were found in the overall extent to which children incorporated the barebones story line into their tellings. On the average, children included just over half of the 14 main events in their story renderings. The mean number of main events reported by children in each condition was: Intact Film = 7.2, Silent Film = 7.3, Descriptive Aural = 7.5, and Storyteller Aural = 8.4. Interestingly, there was a tendency ($F(1,58) = 3.526$, $p = .06$) for boys to account for more of the major events than girls (boys = 8.2, girls = 6.9).

However, as indicated in Table 2, there was variation in the extent to which individual events were recalled. The most frequently mentioned content were references to: (E4) hatching of the baby geese, (E14) the owl drowning, and (E12) the owl falling into the water. Least often mentioned were (E8) the owl's rejection of food, and (E7) the geese feeding.

This variation in recall is perhaps best explained by reviewing the events that most of the adults listed as comprising the main story line. For, if a further hierarchy of their importance was established, it would likely give greater weight to just those events included by the most children. The owl's fall from flight and his drowning describe the tragic demise of the protagonist and the end of the story. The hatching of the baby geese, in addition to being dramatically significant, also may appeal to children's interest in their own birth and sense of their own youthfulness. In comparison, the two least often mentioned events are really not as crucial to the story.

Using the number of children who mentioned each event when retelling the story as a guide, the salience of these events may be ranked in the following order:

Barebones story		(N = 60) %
E4:	Hatching the baby geese	95
E14:	Owl ending	80
E12:	Owl landing	73
E9:	Geese flying	71
E5:	Geese swimming	67
E1:	Introducing main characters	63
E10:	Owl flying	58
E11:	Geese landing	50
E13:	Owl rescued by goose	48
E6:	Owl doesn't swim	47
E2:	Building nest	38
E3:	Relationship established	33
E7:	Geese feed	30
E8:	Owl doesn't feed	17

There were also medium differences in the inclusion of specific main events, as indicated in Table 2. Chi square tests were used to determine whether between-group differences were significant. In addition, the Cramer's V was computed to give a measure of association between group membership and inclusion of given main events.

First, there was a significant difference in references made to (E3) the relationship between the owl and the goose ($\chi^2(3) = 33$, $p < .001$). While only 33% of the total sample mentioned this information, all but one child exposed to the Storyteller version established this relationship in their own stories by drawing inferences about either their affection for each other ("They were in love") or the status of their friendship ("They were married").

Also significant were differences among conditions in recall of both (E7) the geese feeding ($\chi^2(3) = 11.11$, $p = .01$) and (E8) the owl's refusal of food ($\chi^2(3) = 9.12$, $p = .03$). However, in these two instances children retelling the

Table 2

Recounting the Barebones Story

Event	Film		Audio		Total Sample	Medium Difference	Cramer's V
	Silent (N = 15) %	Intact (N = 15) %	Descriptive (N = 15) %	Storyteller (N = 15) %	(N = 60)	χ^2	
1. Intro	67	60	73	53	63		
2. Nest	47	40	47	20	38		
3. Relationship	13	20	7	93	33	<.001	.55
4. Hatching	100	93	100	87	95		
5. Geese swim	67	60	73	67	67		
6. Owl no swim	53	40	47	47	47		
7. Geese feed	40	27	53	0	30	.01	.43
8. Owl no feed	0	13	40	13	17	.03	.39
9. Geese fly	60	93	67	93	71	<.05	.37
10. Owl flies	53	53	53	73	58		
11. Geese land	60	53	40	47	50		
12. Owl lands:							
Lands	7	20	53	53			
Sinks	27	27	7	0	73	.06	.30
Both	40	20	13	27			
13. Goose rescues	53	40	53	47	48		
14. Owl end:							
Sinks	33	27	67	53			
Dies	27	60	13	13	80	.02	.33
Both	7	0	0	20			

Note: Totals of slightly more or less than 100% are due to rounding off numbers to the nearest percentage.

Descriptive Aural version included them most often and those retelling the Storyteller version included them the least. The film versions also generated low or no recall of the owl's rejection of fish.

These differences, first favoring one aural version and then the other, may simply be due to the amount of time (and number of words) used to describe each event: the Storyteller version spent the most time establishing the characters' relationship; and the Descriptive version spent longer describing the feeding activities, particularly the owl's rejection of food. In addition, as will be noted later, hearing the Descriptive Aural version lent itself to inclusion of more incidental events than did the other versions; since these feeding activities ranked lowest in salience, their relatively better recall by children presented this version may reflect this same tendency to not exclude minor actions.

The recounting of three other main events exhibited significant medium differences: (E9) the geese flying ($\chi^2(3) = 8.15$, $p < .05$); (E12) the owl landing ($\chi^2(9) = 16.09$, $p = .06$); and (E14) the owl ending ($\chi^2(9) = 19.07$, $p = .02$).

In the case of the geese taking flight, it is difficult to explain the difference between the two film conditions. This is the only instance where accounting for a main event following the Intact Film exceeds that of the performance after the Silent Film to a significant degree. The difference may simply be due to chance.

With regard to both the owl's landing and his ending, the observed medium difference captures a subtlety in children's descriptions of these events that was more evident among the film audience. In the case of the owl's landing, children seeing the film noted not only his fall to the water but also his sinking below the surface. Similarly, in reporting the ending the film audience (in particular the Intact Film) not only stated that he sank, but also more often concluded that he drowned or died. The film viewers' descriptions of both events were simply more complete.

This was the kind of medium difference we had expected to see more of, where exposure to the film's dynamic visual display would provide children with more information about these events than would a verbal description of them. However, only in reporting the two events just mentioned (owl's landing and his drowning) did children's descriptions exhibit these almost qualitative differences.

For the most part, children were equally capable of accounting for the story's main events regardless of whether they were conveyed aurally or visually. This finding is consistent with previous media studies comparing adults' retellings of verbal or visual narratives (Baggett, 1979), and comparing children's retellings of verbal or audiovisual narratives (Beagles-Roos & Gat, 1981; Char with Meringoff, 1981). Apparently, by the age of 10-11 years, children had a good grasp of this fairly straightforward story line.

Although one cannot prove the null hypothesis, it is striking that children should perform as well when translation from pictures to words is required as when only recall of words is called for.

Including other story content. Each category of other story content was subject to two kinds of analysis. First, a one-way fixed effects model ANOVA was conducted to test for significant differences between group means. In addition, apriori orthogonal contrasts were carried out between two sets of means: using t tests, the Intact Film was compared to the Descriptive Aural version, and the Storyteller Aural version was contrasted with the Silent Film.* The findings of these analyses are reported in Table 3.

The first comparison was justified by the fact that the Descriptive Aural version was constructed as a control for the Intact Film. As previously described, its verbal narration

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*The separate variance estimate techniques was used, which results in decimal numerals for the degrees of freedom.

describes the film's events and the mixing in of the film sound track gives it further similarity to the Intact Film. This pair of mean scores provided the strictest comparability of content across medium. Reviewing these scores permitted us to examine whether responses to the film and to its aural analogue could be distinguished.

The second comparison presumed that the two versions differed not only in modality, but also in the degree to which they interpreted the story content for the audience. Specifically, the Storyteller chose to assert certain information (about characters' feelings, thoughts, dialogue, and physical states) that we felt had to be inferred from the Silent Film. We compared these two groups to see whether this difference between verbal assertion and visual depiction of the same story would be evident in children's verbal accounts of the story.

a. Other events. A significant medium effect was observed in reporting other events more incidental in content ($F(3,56) = 6.166$, $p = .001$). Children presented the Descriptive Aural version included the most other events, and significantly more than did those presented the Intact Film ($t(23.9) = -2.84$, $p = .009$). These events all appeared in the film, but were mentioned in the descriptive text, e.g., "The fish wiggled"; "The owl spread his wings out"; and "Bubbles kept coming up." The analysis was based upon the total number of other events and included those judged incorrect; however, only a small number of mistaken events were reported by each group (1-6), and they were distributed in the same proportion across groups as the correct events.

Inclusion of more incidental story events by children hearing the worded version seems to contradict our premise that events are expressed more completely and powerfully by film than by an aural (Meringoff, 1982; Vibbert and Meringoff, 1981) or even a picture book (Meringoff, 1980) rendering.

However, these children were older than those who participated in the previous studies, and they approached the re/telling

Table 3

Including Other Content

	Film		Audio		ANOVA F Test	Apriori Contrasts	
	Silent $\bar{X}$	Intact $\bar{X}$	Descriptive $\bar{X}$	Storyteller $\bar{X}$	P	2:3	1:4
a. Other events	1.80	2.27	5.80	2.40	.001	.009	
b. Sound effects	.06	.06	1.0	0	<.001	.007	
c. Physical inference	1.87	1.53	1.63	4.80	<.001		.001
d. Time	.80	.67	1.13	.80	ns		
e. Dialogue:							
1 Owl	0	.27	1.0	.13	<.001	.025	
1 Goose	0	.40	1.87	0	<.001	.004	
2 Owl	0	0	0	1.93	<.001		<.001
2 Goose	.07	0	0	1.67	<.001		.002
f. Character perception:							
Hearing	0	0	1.20	0	<.001	<.001	
Seeing	.20	.40	1.80	1.20	.003	.01	.02
g. Character thought	.20	.06	.13	.93	.001		.03
h. Character feeling	.27	.20	.13	.73	.03		
i. Number words	109.27	117.07	225.60	173.0	.006	.01	.05

task with considerable skill. On a superficial level, the story line was a simple one for them, and their aided and unaided recall of story information was generally high. Whereas we had previously found strictly aural versions of stories to prove very demanding for children to recall and perhaps understand fully (Char with Meringoff, 1981), the children may have listened to this story with good comprehension. Presented with a verbal report of this story's minor events, children could remember and repeat more of them than their film-viewing counterparts.

By this age, children are also better at retelling a coherent story, one which incorporates the important information in the right order (Collins et al., 1978; Mandler & Johnson, 1977; Stein & Glenn, 1975). If we evaluate the film viewers' stories in this context, they may warrant more credit than is immediately obvious. For while the film audience included as much central content as children who heard the story told, they may have been selective in reporting this secondary event content. One could say they were adept at extracting the important event content from moving pictures, even in the absence of any verbal (or sound) cues.

b. Sound effects. There was a significant difference between groups in the inclusion of sound effects ($F(3,56) = 9.694$, $p < .001$). Exposure to the Descriptive Aural rendition of the story resulted in use of the most sound effects, and significantly more than did exposure to the Intact Film ($t(15.4) = -3.108$, $p = .007$). Once again, the other two versions had no sound effects.

It is surprising to find so little use made of sound effects by children recounting the film story. We had expected the sound effects to stand out as meaningful auditory content, to help sustain attention, and to facilitate children's understanding of the story. Moreover, typical Saturday morning cartoons on commercial television are loud with sound effects which children often simulate in their own play.

Perhaps the film audience's limited reporting of sound effects reflected carryover of the confusion they expressed about the verbal Eskimo sound track. Hearing the characters speak but not knowing what they were saying was a complaint voiced often by children presented this version. In comparison, receiving a story exclusively auditorily (audio, radio) may accentuate all meaningful sounds for children. Interestingly, however, demonstration of and references to the sound effects did turn up in the film children's gesturing and in their responses to some inference questions.

c. Physical inferences. A significant main effect also was found in the extent to which children incorporated various physical inferences into their tellings ($F(3,56) = 11.849$, $p < .001$). In the case of this content, the advantage went to the Storyteller version, as when it was compared with the Silent Film ($t(21.4) = -3.815$, $p = .001$). However, further analysis of individual responses revealed that approximately 70% of the physical inferences offered following the Storyteller tale were asserted verbally in the narration (e.g., Owl couldn't swim because ". . . his feathers were so heavy they began to sink"). It will be remembered that responses were scored in a uniform way even when the four versions handled the relevant content differently.

Therefore, a more precise statement of this finding is that when physiological states, abilities, and other physical modifiers of characters, events, and settings were asserted verbally in an aural story, a significantly greater number of such remarks appeared in children's retellings than when the same observations needed to be inferred from either a verbal description or a visual depiction of this content.

d. Time. There was no significant medium difference in the number of references children made to time in their accounts of the story. However, there was variation across versions in the particular time observations noted by children. For

example, only children conveyed the story aurally mentioned the change of season to winter. Apparently, a single viewing of the film did not elicit recall of the snowflakes falling, even with accompanying wind in the intact version.

e. Dialogue between characters. Significant between-group differences were found in children's inclusion of character speech. These differences appeared both in the extent to which children indicated simply that a character spoke ("Then he said something to her") (Owl: $F(3,56) = 8.114$, $p < .001$; Goose: $F(3,56) = 15.987$, $p < .001$), and in children's provision of speech content ("He said: 'No, I have to come with you'") (Owl: $F(3,56) = 22.469$, $p < .001$; Goose: $F(3,56) = 15,681$, $p < .001$).

In the case of simple references to dialogue, delivery of the Descriptive Aural version produced attribution of more speech comments than the Intact Film for both the owl ($t(19) = -2.442$, $p = .025$) and the goose ($t(18.3) = -3.306$, $p = .004$). Remember that the Intact Film provided dialogue in all the places noted in the Descriptive Aural version, but that the dialogue was spoken in a foreign language and was incomprehensible to children.

Almost all instances of speech content for the characters followed experience with the Storyteller version, as indicated when this version was contrasted with the Silent Film (Owl: $t(14 = -4.740$, $p < .001$; Goose: $t(14.7) = -3.850$, $p = .002$). The Storyteller version was the only version to make speech content explicit.

f. Character perceptions. Significant medium differences were found in children's attribution of both hearing ($F(3,56) = 21$, $p < .001$) and seeing ($F(3,56) = 5.29$, $p = .003$) to the main characters, the owl and the goose.

Hearing: Only children in the Descriptive Aural condition projected what the characters heard in their story retellings. All the references coincided with places in the story recording

where sound effects were audible ("Owl heard a noise, the eggs cracking"; "Goose heard the bubbles"). Even though the same sound effects were available on the film sound track, presentation of the Descriptive Aural version elicited significantly more of these character perceptions than did presentation of the Intact Film ($t(14) = -4.583$, $p < .001$).

This finding may be explained most simply by noting that most of the hearing references made by children were stated in the Descriptive Aural narration ("Just then . . . something he heard interrupted him;" ". . . the only answer she heard was the sound of bubbles under the water"). The Storyteller version included only one reference to a character hearing something.

It seems as if the addition of verbal references to content presented auditorily significantly enhances children's mention of it. The words may function to reinforce or emphasize the sound, acting as an announcement that a sound is audible. Furthermore, the text makes it explicit that not only the child but also the character has heard a particular sound. Once this is verbalized, it takes only recall of this text for children to include this content in their stories. In contrast, a child who has heard the same sound and only watched the character look attentive or act in reaction to hearing it, is taking an inferential step in stating this in his own telling. It entails, however, a small leap in attribution.

Finally, it is worth noting again that the film audience was inhibited from making reference to sound content; viewers attributed less dialogue to characters, and failed to acknowledge that either the characters (character perception) or even they themselves (sound effects) heard anything during the story.

Seeing: In comparison, it is interesting to examine children's attribution of sight to characters. In contrast to hearing, where the foreign speech in the Intact Film and the absence of sound in the Silent Film presumably left children at a disadvantage, we predicted the opposite would be true for characters' visual perceptions. Surprisingly, this was not the case.

Children who listened to the Descriptive version supplied the most references to characters' seeing things, and significantly more than did those who screened the Intact Film ($t(19.8) = -2.761$, $p = .01$). In addition, exposure to the Storyteller version prompted children to include significantly more of such visual character perceptions than did experience with the Silent Film ($t(16.2) = -2.53$, $p = .02$). Although the film audience did attribute vision to the characters (they mentioned no heard content at all), children in the aural conditions did so significantly more.

As with references to hearing, the text of the Descriptive Aural version made it verbally explicit that the characters looked at, watched, or saw things ("When they peered into the nest, it was full of eggs"), and more than half of the character seeing references the children made were verbalized in the story. The same reason probably explains the response to the Storyteller version: unlike the heard content, which was not explicated, the narration did describe characters seeing things ("Owl saw five eggs in the nest"), and the children reiterated these comments.

Qualitatively, inclusion of more character perceptions by children retelling these aural story versions imparted a stronger sense of the narrator. Perhaps hearing a third person narrate the story distances the listening audience from the story's characters and events moreso than watching the events without any verbal commentary.

g. Character thoughts. A significant between-group difference was observed in the projection of conscious thought for the characters ($F(3,56) = 6.222$, $p = .001$). Children retelling the Storyteller version attributed significantly more cognitive activity to characters than those telling the Silent Film ($t(17.9) = -2.417$, $p = .026$).

Only two of these post-Storyteller comments reiterated narrated content ("Owl thought, 'it's too deep'"). However, most of the other comments credited as character thoughts

referred to one place in the story, when the owl and the geese were flying over what looked like dark earth: "Turning downward, Owl tried to land slowly too, but as he drew nearer to the earth, he saw it was not earth but water." The children apparently changed what was offered as an owl perception into a thought or realization in their own retellings. (There also were several children retelling the Storyteller version who included references to this content in the form of an owl perception.)

If we subtracted these perception-based responses, it would eliminate the advantage observed among the Storyteller version audience, and leave very few instances of character thoughts volunteered by children in any of the conditions.

h. Character feelings. A similar pattern to that just described for cognitions appeared in children's inferring of character affect. There was a significant medium effect found in the inclusion of character feelings ($F(3,56) = 3.111$, $p = .03$), due to their greater use by children in the Storyteller condition. Once again, however, further analysis of individual responses revealed that about half of the post-Storyteller remarks were based upon given content ("Owl was lonely"). Without counting these explicit cues, there were few comments made about characters' feelings.

i. Total number of words. Finally, there was a significant medium difference in the length of children's story recountings ($F(3,56) = 4.644$, $p = .006$). In this case, both paired contrasts proved responsible: children who heard the Descriptive Aural version told significantly longer stories than children who viewed the Intact Film ($t(20.9) = 2.708$, $p = .01$); and the Storyteller audience told significantly longer versions than did the Silent Film audience ($t(21.1) = 2.09$, $p = .05$).

Comparison of the group mean scores indicates that the Descriptive Aural audience related the longest stories, longer

than the Storyteller listeners; the Storyteller Aural mean number of words ($\bar{X}$ = 173) is 78% of the Descriptive Aural mean ($\bar{X}$ = 226). However, the descriptive rendering that children heard was also longer than the Storyteller version, in fact, by about the same proportion; the Storyteller tale (N_s = 882 words) provided 71% of the number of words used to tell the Descriptive Aural story (N = 1,249).

It is no surprise to find that children who are offered a story verbally use more words to retell it than children exposed to a nonverbal version of the same story. Such a finding further verifies the different task demands imposed upon the film and audio audiences. That is, for those who heard a worded version, the task constituted a retelling; for the film viewers, the task entailed constructing a telling, or translating the moving picture content into propositional form.

If anything, it is noteworthy that the film audience used as many words as they did. In particular, it is impressive that their accounts of the story, even though shorter, incorporated as much of the central content as the audience exposed to verbal renditions.

3. Initial Response

Immediately following children's re/tellings, we posed four questions that offered children a way to relax and comment personally about the story. This format gave children the opportunity to reflect upon and sort out some of their questions and concerns about the story before proceeding to the directly probed questions. Below are those post-story questions:

1. "How did the story make you feel? Why?"
2. "Was there any part of the story you didn't understand?"
3. "Was there any part you didn't like? Why not?"
4. "Which part of the story did you like best? Why?"

Scoring

The first question: "How did the story make you feel?" was scored for either positive ("happy"), negative ("sad"), neutral ("okay"), or "other" responses ("It made me feel funny, like, the owl was drowning and the goose didn't help" or "excited, a little, it was a mystery to me to see what would happen next"). Unscorable responses were generally those that intoned "I don't know."

Question 2: "Was there any part you didn't understand?" drew either flat "no"s, puzzlement about the beginning of the story, or "other" comments scored for concern with either form ("the language") or content ("why an owl would be married to a goose").

Question 3: "Was there any part of the story you didn't like?" yielded either "no"s or complaints about the owl's drowning, or about the goose's failure to save him at the end; children's responses were scored accordingly.

The part children "liked best" ranged over fifteen different incidents in the story. Scores recorded in Table 4 reflect the five most popular story incidents selected, that is, those for which there were at least 19% of children's responses in any condition.

Below is the complete list of incidents in rank order:

Incidents children liked best	(N = 60) %
1. The goslings hatch	24
2. Goose catches a fish/throws it to Owl	10
3. Goose takes goslings into water/ teaches them to swim	10
4. Owl tries hard to fly	8
5. The geese are flying	8
6. Owl splashes into water/sinks	8
7. Goose pulls Owl out of water	6
8. Goose and Owl get married	5

9.	Owl puts his foot in the water	5
10.	Owl tries to stay up in the water	3
11.	Owl drowns	3
12.	Night time	2
13.	Owl paces around the pond	2
14.	Owl sings and does cartwheels	2
15.	The geese land on the water	2
	Unscorable	2

Initial Response Findings

Question 1. Children's stories rarely end tragically like this one, and very few have characters, like the goose, whose fate is left unresolved. Children responded with appropriate feelings to this somewhat distinctive outcome. For example, nearly half the children (45%) admitted feeling moved by the sadness of the story. However, this bias was due to reactions to the aural versions. Nearly three-quarters of the Storyteller children (71%) and more than half of those in the Descriptive Aural group (53%) responded that the story made them feel: "Kinda sad, because the owl drowned" (SA) or "Sad, because he was trying to get her and he couldn't and he drowned" (DA). Surprisingly, a minority of the film audience reported feeling sad, and, in particular, the Intact Film viewers.

Most of the positive responses came from the two film conditions, and fell into three categories. Children either expressed general appreciation of the story ("Happy [shrugs], just a nice film, I guess" or "Well, I really didn't understand what they were saying, but it was good"), they liked the story's form or content (Form: "It was kind of like a funny story the way they moved [the owl and the goose] how they like, pictured it" (SF) or Content: "Happy, a little, cause the birds knew how to fly and everything and the owl finally got in the water" (IF)). Only a few of these positive responses conveyed lack of understanding and were inappropriate ("I felt like the owl,

Table 4

Initial Response

	Film		Audio	
	Silent (N = 15) %	Intact (N = 15) %	Descr. (N = 15) %	Story. (N = 17)[a] %
How did the story make you feel?				
Negative	33	13	53	71
Positive	20	27	13	12
Neutral	7	7	7	6
Other	7	20	13	6
Unscorable	33	33	13	6
	(N = 15) %	(N = 15) %	(N = 15) %	(N = 15) %
Was there any part you didn't understand?				
No	40	47	73	67
The beginning	27	7	--	20
Other/form	27	33	13	--
Other content	6	13	13	13
Was there any part you didn't like:				
No	93	80	80	87
Owl drowns/goose lets him	7	13	20	13
Other	--	7	--	--
Which part did you like best?				
1. Goslings hatch	33	16	19	31
2. G throws fish to O	20	11	6	--
3. O tries hard to fly	--	5	19	8
4. G pulls O from water	--	5	19	--
5. G and O get married	--	--	--	23

[a]Some responses were assigned more than one score.

happy, cause at the end the swan picked him up out of the water" (IF) or "Happy, cause the bird saved him" (SF)). Responses that expressed "other" feelings came primarily from Intact Film children (20%) and included: "It made me feel funny, like the owl was drowning and the goose didn't help him." We also found a third of children's responses (33%) in the two film conditions to be unscorable ("I don't know, I was kind of interested in it" or "No special feeling" or "It didn't bother me").

Question 2. When asked if there was any part of the story they didn't understand, most children in the two audio conditions (73% Descriptive Aural, 67% Storyteller) replied "no." Although fewer film children gave that reply (40% Silent Film, 47% Intact Film), of those who didn't say "no," most had justifiable reasons ("When all the ducks were in the air--the things around--I didn't know what they were doing"). These reasons had more to do with issues of form than that of content. Twenty-seven percent (27%) of the Silent Film children were disoriented at the very beginning of the story by the film's depiction of the owl and then the goose emerging from a textured darkness and gradually becoming defined against a clearing white surface ("Just at the beginning, all that brown. I didn't understand what that was"). As in this example, the film's form rather than its content was the confusing factor for most of those children at the beginning of the film; it was not the kind of film presentation that they had experience with. In the absence of auditory cues, it is certainly understandable that these children were left "in the dark," so to speak, in the film's opening moments. Although the text of the Storyteller version is rather straightforward, 20% of the children from that audio condition also cited "the beginning" of the story as the part they didn't understand ("Yeah, the beginning part, the first little part"). Because children from the Storyteller condition never really explained what it was they

didn't understand at the beginning, we can only speculate that it may have taken those few children a little longer to become oriented to their task. Film children's "other" responses were more often concerns of form than that of content. Comments from 27% of Silent Film children and a third of the children in the Intact Film condition (33%) expressed such concerns: "At first, I didn't understand [when they were all flying] when they went into the black thing. Then I found out it was water" (SF) and "Yeah, the language part. How they talked" or "Just when the owl and goose were talking and little hearts came out of their mouths" (IF). Table 4 reflects an interesting comparison between the number of form, as opposed to content comments film children gave in their "other" responses.

Question 3. When we asked if there was any part of the story they didn't like, children from all conditions gave an overwhelming "no" response. Children in the Silent Film condition responded with the most "no"s (93%). It is difficult to determine whether this strong positive response to the story was genuine or gratuitous. The mitigating reason for not liking the story referred to the outcome, that the owl drowned and/or that the goose didn't save him ("About the part when he died, like when he went under water" (DA), and "When she left him there in the water and he drowned. She shouldn't have left him there. She knew he can't swim" (IF)).

Question 4. Although fifteen different incidents were mentioned in response to "What part of the story did you like best?," the five most popular incidents in order of frequency were when:

- The goslings hatched
- The goose caught a fish and threw it to the owl
- The owl tried hard to fly (and succeeded)
- The goose pulled the owl out of the water
- Goose and Owl got married

A third of the Silent Film children (33%) and nearly a third of those from the Storyteller condition (31%) considered the part when the goslings hatched to be their favorite ("Because I never saw a mother goose laying eggs before" or "When the chickens hatched, they were cute" (SF) and "Cause I like baby animals" or "Because I like seeing eggs hatch" (SA)). These responses were certainly understandable; children generally are delighted at the idea of baby animals being born. Relatedly, this incident was included most often in children's re/tellings.

Only children who heard the Storyteller version (23%) mentioned the part where Owl and Goose get married ("When they got married, he was very happy with his life."). The text makes a very brief statement about this: "Owl and Goose were married." However, the Storyteller version continues to refer to the characters as husband and wife and the text also includes statements from each character expressing how he/she feels about the other. Apparently, providing these explicit guideposts in the Storyteller text helped some children perceive and appreciate the relationship between the owl and the goose.

Although not often remembered when recounting the story, 20% of the Silent Film children and several other children (11% IF, 6% DA) enjoyed the part where the goose threw the fish to the owl (but the owl rejected it). Perhaps children appreciated it as a moment when the goose was trying to reestablish a relationship with the owl after spending so much time with her goslings. Film viewers may have enjoyed seeing the fish wiggle and flop around under the owl's watchful gaze.

"Owl tries hard to fly" was the favorite part for 19% of the Descriptive Aural children. The salience of his breathing on the Descriptive audio sound track may have contributed to this preference, even though sound effects were not mentioned specifically here. Some examples of children's comments were: "When the owl couldn't fly as well as they could--it was really hard for the owl to fly" and "When the owl really tried to get up in the air--it showed a lot of will power." The other

popular part for Descriptive Aural listeners (19%) was when the goose pulled the owl out of the water. Here are three examples of how Descriptive Aural children described that incident: "When she took him out of the water and was calling to him when he was sinking, because it was the most action"; "When the owl kept on falling in the water, funny that he fell in the water, she had to get him up"; and "When the owl fell into the water and the goose [geese] went all over the place." Perhaps the "action" did have the most appeal for these children. Also appealing may have been the way in which that scene changed from the peacefulness of the geese (who rested and groomed their feathers in the moonlight), to the surprise and humor when something (the owl) fell from the sky into the water, to a sense of relief when the goose first rescued the owl. For these listening children, it is possible that this incident was truly one of the most exciting moments of the story.

Choices of the children in the Intact Film condition were very diverse and ranged over nine different incidents. "Goslings hatching" (16%) and "geese flying" (16%) were cited most frequently and the latter choice may best be summed up by the following example: "But I most liked the part where they were flying because it looked original."

4. Inference Questions

Children drew inferences in response to questions we asked about the characters:

> Feelings, e.g., "When the goose was sitting on the nest and the owl was turning cartwheels/dancing out a rhythm on the earth; how was the owl feeling?"
>
> Thoughts, e.g., "When the goose was sitting on the nest watching the owl; what was the goose thinking?"
>
> Relationship, e.g., "How did the owl and the goose feel about each other?"
>
> Conversation, e.g., "When the owl and goose spoke in hearts to each other; what were they saying?"

And also in response to:

> Transitions between scenes or events, e.g., "How much time did it take for the flock to get to the place where they landed?"

In most cases we solicited the inference as well as the basis for an inference (inference: "When the goose and goslings went into the water, how did the owl feel?"; basis: "How do you know he felt that way?").

Scoring

We scored children's inferences for the "level" attained. Level 1 inferences contained cliched responses (question: "How did the owl and goose feel about each other?"; answer: "They liked" or "loved each other"). Level 2 inferences exhibited a more elaborated explanation of the relationship ("They wanted to be with each other for the rest of their lives").

In analyzing the bases for children's inferences, we developed a scoring system that was relevant to the information provided in the story, to the range of these children's responses, and to more general issues regarding narrative comprehension. Below are listed the categories used to score children's responses, with examples for each category

Characters' Internal or Psychological Behavior

- Feelings: "He felt left out, sad."
- Motives: "He wanted to go in."
- Thoughts: "He thought maybe it was someone else."
- Perceptions: "All she could see was his beak." "When she heard the noise, she jumped off her nest."
- Opinions/Preferences: "He didn't like the water."
- Traits: "She was thoughtful."

Physical Behavior/States/Events

- Abilities: "He can do cartwheels."
- Appearance/Features" "She looks pretty."
- States: "His foot was cold."
- Qualitative Behavior: "He was slowing down."
- Sound Effects "He was breathing hard."
- Events: "He kept circling the pond until he was ready."
- Environment: "It [the water] was too cold."
- Distance "They flew a long way."
- Physical Relationship: "He could almost catch up with the goose."

Relationships Between Characters

- Psychological Relationship: "She was the only real companion he had."
- References to Goslings: "That she takes care of the goslings."

We also kept track of inference responses which were either inappropriate or based upon mistaken information (question: "How did owl feel when his foot got wet?" answer: "Lonely"). We found so few responses of this type that we excluded them from the analyses.

Reliability. To establish reliability one-third of the inference data was scored independently by two judges. Inter-rater agreement for parsing the data and for assigning categories ranged from 80% to 100%.

Unless otherwise noted, findings presented in the following section are represented in percentages of total responses for each question. Table 5 indicates the number of responses to each question. Ten percentage points difference between conditions was the criterion we determined to be worth noting.

a. Relationship. One question probed children directly about the story's two central characters:

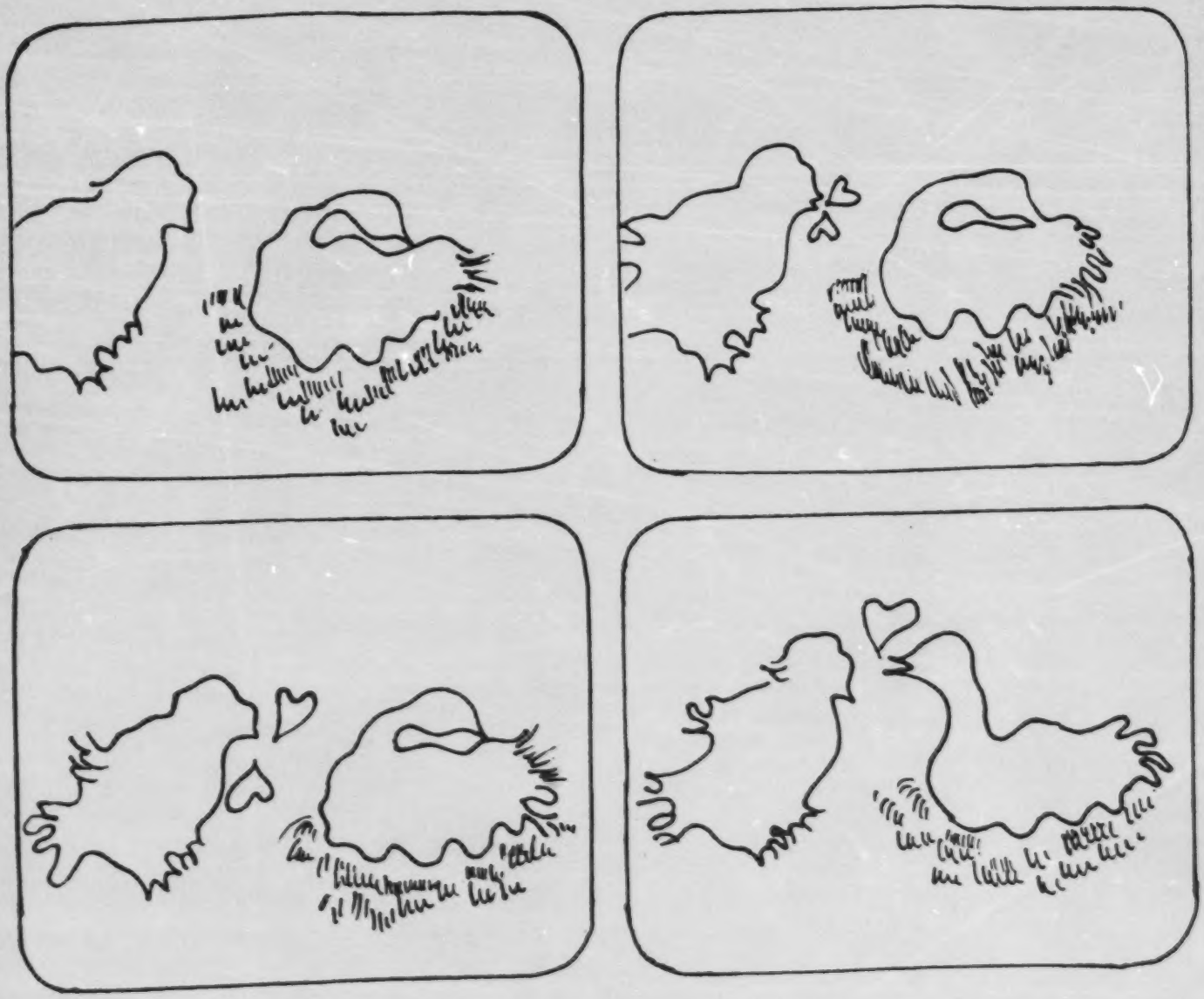
"How did the owl and the goose feel about each other?"

This question had two follow-up questions.

Basis 1: What is it about the owl that the goose ( )?"
Basis 2: What is it about the goose that the owl ( )?"

The blanks represent responses children gave to the initial question ("They loved each other," They were friends"). Below are excerpts from the film and texts of the two audio versions which provide the most directly relevant information about the characters' relationship:

Film



Descriptive Aural Version

"Then the owl came over to her, leaned close, and as he spoke it was as if hearts arose from his mouth. The goose answered him gently, and it was as if a heart arose from her too, as she spoke."

Storyteller Version

"When Goose and Owl spoke, it was as if their words were ♡'s.

He sang,
"I am an owl, Whoo-whoo
My eyes are round
My belly is fat
My claws are sharp
I am an owl, Whoo-whoo.

My wife is a goose
Her neck is long
Her wings are strong
When she walks,
Her footprints are like stars."

Then the goose looked at the owl and sang,
"How happy I am to see your heart-shaped face,
to hear your hooting voice
to see your joyful dance."

Inference levels. The majority of children in all conditions remained at inference Level 1 (73%). A third of the responses of children in the Intact Film condition (33%) were judged to be Level 2 inferences ("They wanted to be close friends to each other" or "Maybe sentimental"). Both the Silent Film and Descriptive Aural conditions remained within the same range as the Intact Film children with 27% of the inferences from both conditions attaining Level 2. Compared with children in the three other conditions, children in the Storyteller group had 7% Level 2 inferences for this question. Interestingly, however, these same children volunteered the most relationship inferences in their retellings. As a consequence, to elaborate upon the relationship in this question probably would have entailed repeating information.

Relationship Findings (See Table 5)

Children in all conditions demonstrated understanding of the characters' relationship, as indicated by their ability to draw appropriate inferences based upon sensible and story-relevant attributes. The bases used across conditions were references to relationship such as, "Owl cares about her and she knows it," or the goslings ("The owl was happy that she laid children"). Other attributes frequently mentioned by children in all conditions when describing the owl's and goose's relationship were: traits ("That he was kind and wasn't mean to her" or "He probably thinks that she's nice"), abilities (He does stunts") or ("She gets food"), and appearance/features ("[His] good feathers/round eyes") or ("[Her] shape").

Children in the Silent Film condition drew the most frequent relationship inferences (40%) for the owl ("The way he speaks to her, he makes her happy"). These children also showed the greatest awareness of the goslings as part of the relationship and of the goose's care-taking role in relationship to them. One quarter (25%) of the responses to the question asking what the owl liked about the goose contained gosling inferences ("Because he likes her goslings and he thinks she's a real good mother"). The salience of the relationship for Silent Film children really included the whole family; in particular, inferences by these children exhibited an acknowledgement of the goose's maternal role with the goslings. The final category to bring a strong response from Silent Film children was that of the characters' abilities, with at least a third (35% for the owl; 33% for the goose) of their inferences mentioning that attribute.

In the Intact Film condition, children drew most of their inferences in the following three categories: almost a third (32%) were about the owl's traits ("He never gave up" or "He was always happy and peppy"). More than a third (41%) were concerned with the owl's abilities ("Like [his] doing

Table 5

The Relationship Between the Owl and the Goose

Bases for Inference	B1: Owl B2: Goose	Film		Audio	
		Silent	Intact	Descr.	Story.
		(N = 20) (N = 24)	(N = 22) (N = 30)	(N = 16) (N = 21)	(N = 21) (N = 29)
		%	%	%	%
1. Relationship	B1:	40	18	19	33
	B2:	21	13	19	21
2. Goslings	B1:	10	--	--	--
	B2:	25	7	9	3
3. Traits	B1:	15	32	19	33
	B2:	13	20	14	24
4. Abilities	B1:	35	41	56	19
	B2:	33	20	40	24
5. Appearance/ Features	B1:	--	9	6	14
	B2:	8	40	10	27

cartwheels, flying around") and 40% with the goose's appearance/features ("He thought she was real pretty because she had white feathers"). These more frequent references to the goose's attractive appearance may reflect those children's traditional sex-type bias, as well as their perception of the character depicted in the film.

Inferences by children in the Descriptive Aural condition were strongest on the characters' abilities. More than half (56%) the inferences mentioned the owl's abilities ("His talent for singing and dancing") and slightly less than half (48%) were inferences about the goose's abilities ("Making a nest, the way she gets food").

Storyteller children most frequently drew their inferences about Owl's part in the relationship. One-third (33%) of these children's relationship inferences were about Owl ("He makes her happy"), and another third (33%) were about Owl's traits ("That he hangs on, that he tries").

In general, between the owl and the goose, the less superficial, more personality-related observations were made about the owl, especially those inferences which acknowledged the owl's greater concessions for the relationship ("That he sits and keeps her company") or ("He would do anything for her"). The owl's more defined, complex personality, such as his traits and abilities also tended to be acknowledged generally by children. Among the four conditions, Intact Film audiences differentiated most between the two characters and the Descriptive Aural group differentiated least.

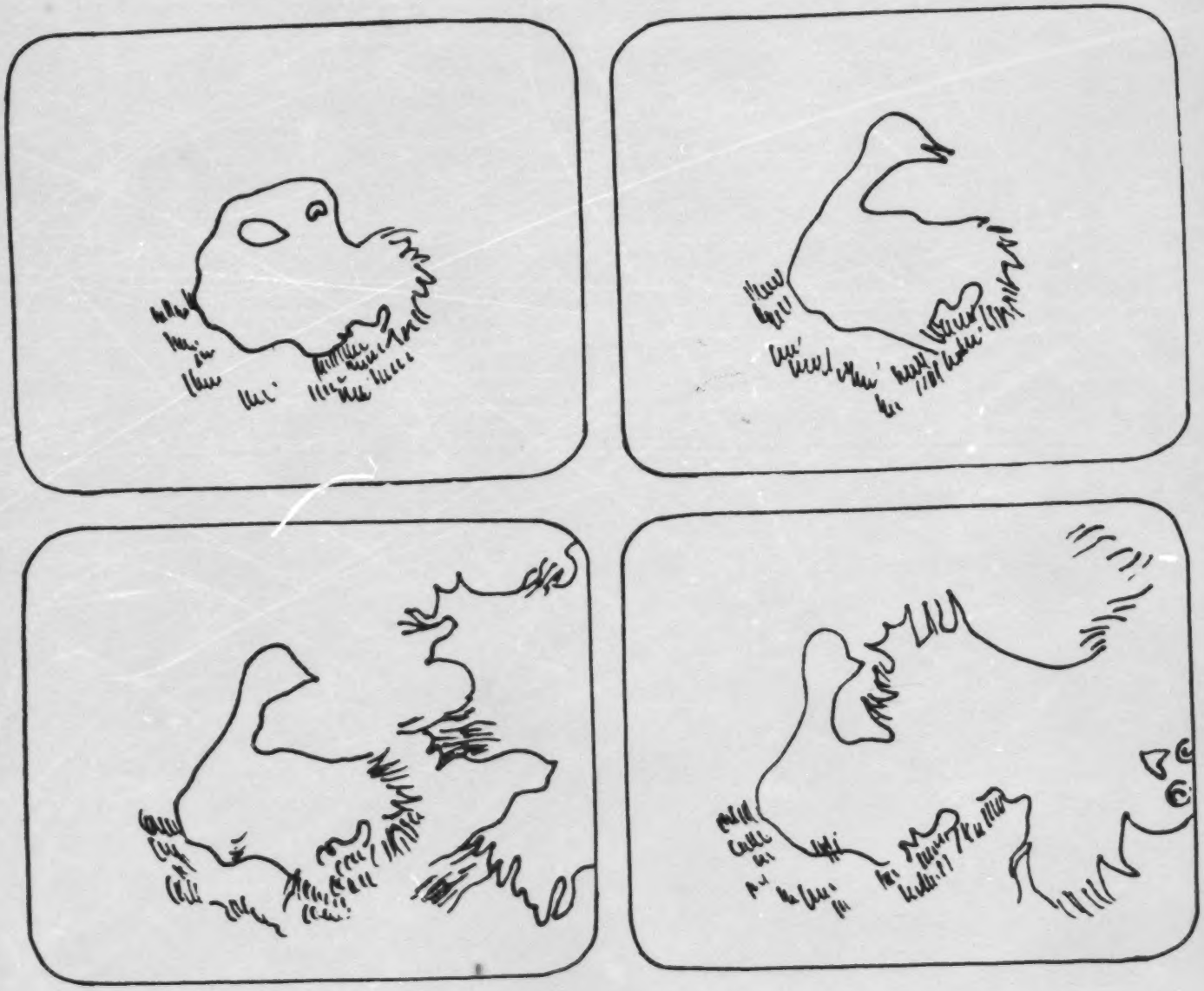
b. Feelings. There were five questions that inquired of children how the owl was feeling at given points in the story. Three of these questions did not require that children give bases for their response; we shall describe these three first.

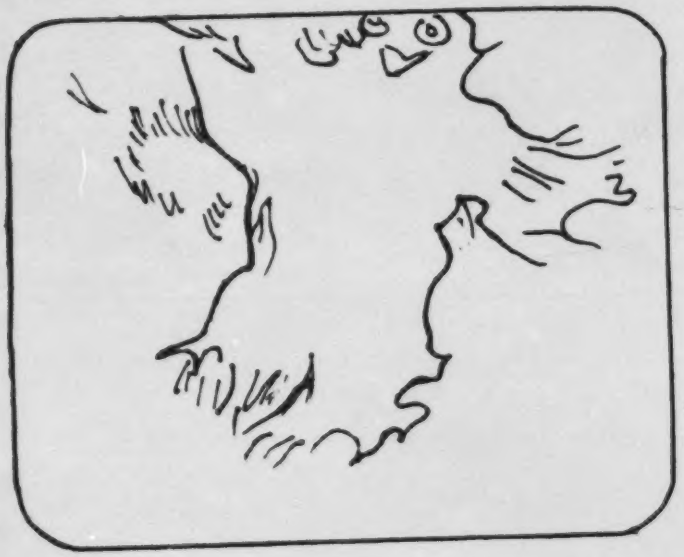
Question 1 had to do with the owl's relationship to the goose, and was phrased as follows:

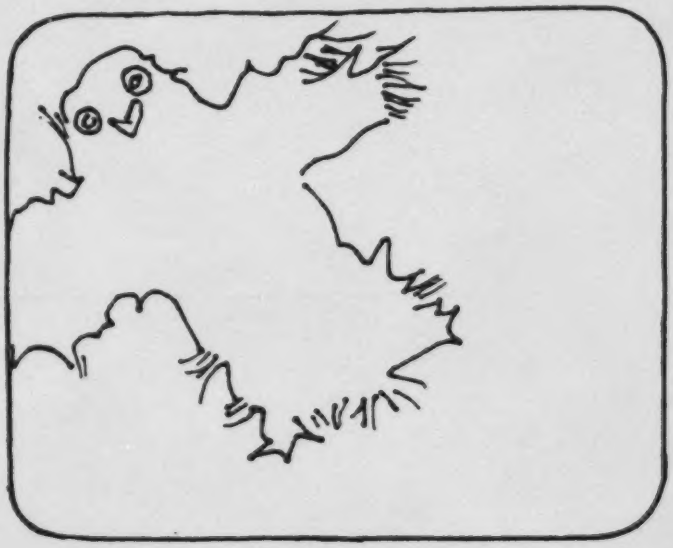
> 1. When the goose was sitting on the nest and the owl was turning cartwheels/dancing out a rhythm on the earth, how was the owl feeling?

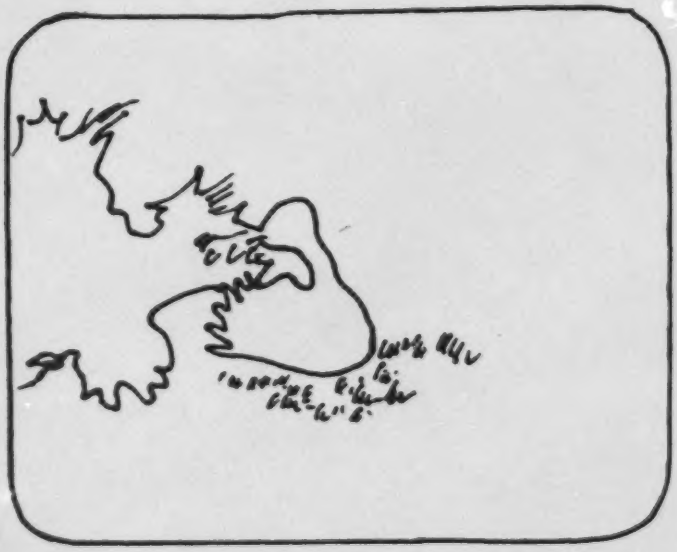
Below are excerpts from the film and audio versions of the story relevant to Question 1:

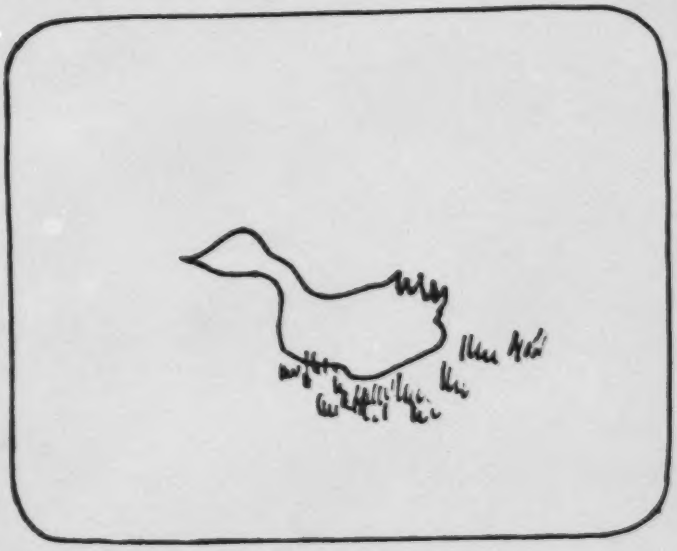
Question 1, Film











Question 1,
Descriptive Aural Version

When the goose was finished, she sat down on the nest, while the owl sang and danced and turned cartwheels all around her.

Question 1,
Storyteller Version

And the goose sat down on the nest. Owl watched. His eyes widened, his heart beat wildly. Owl jumped up and down. His feet danced out a rhythm on the earth.

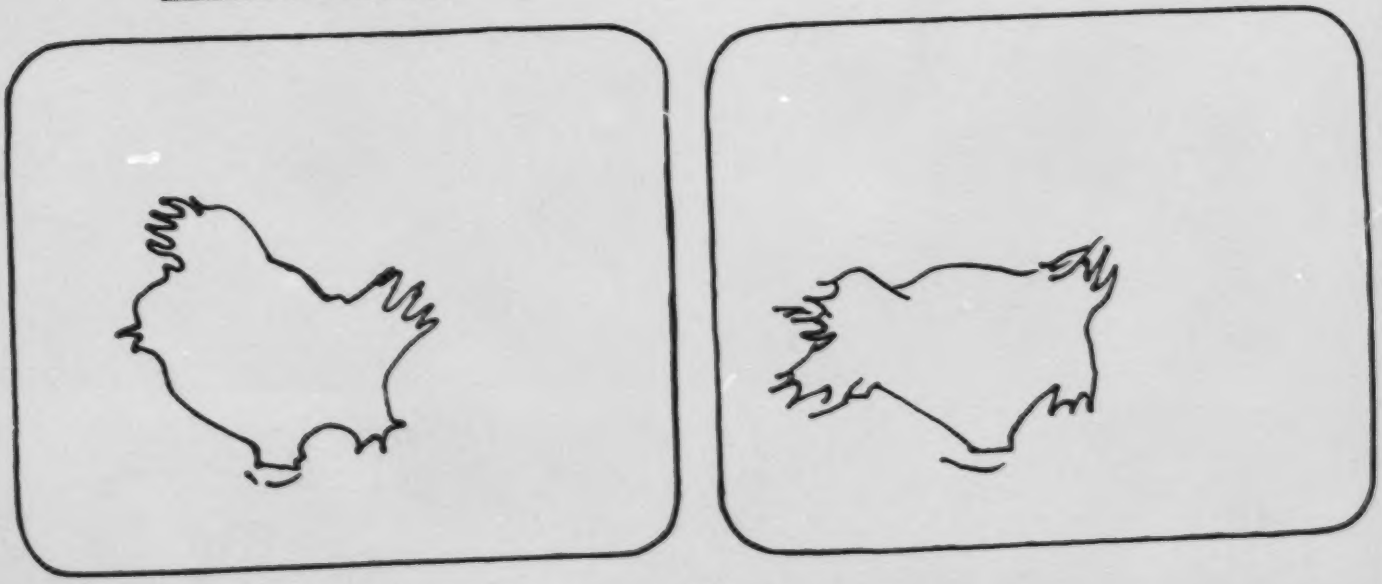
Because Question 1 comes quite early in the story, and children knew very little about the characters at that point, their responses tended to be superficial; therefore we decided to score the question for inference "level" only. In this case, Level 1 inferences represented simple, but appropriate responses ("happy"); Level 2 inferences represented a slightly more elaborated response ("Very happy, he wasn't lonely any more"). There were also inferences that were either inappropriate, questionable ("sad" or "Sick, cause he was doing cartwheels"), or incomplete.

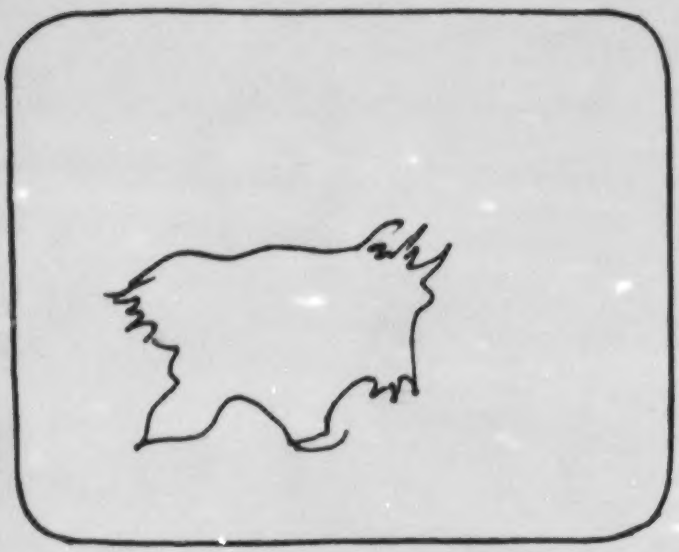
The next two questions had to do with Owl alone. Question 2 asked:

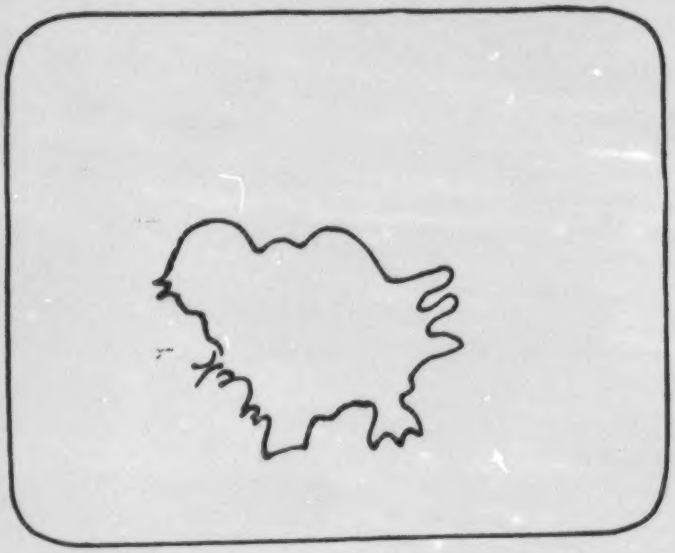
2. When the owl's foot got wet, how did he feel?

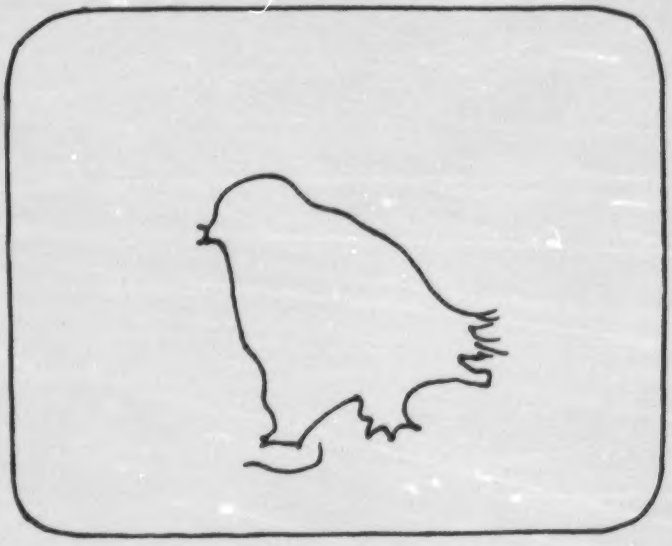
For Question 2 relevant information from the film and audio versions is given below:

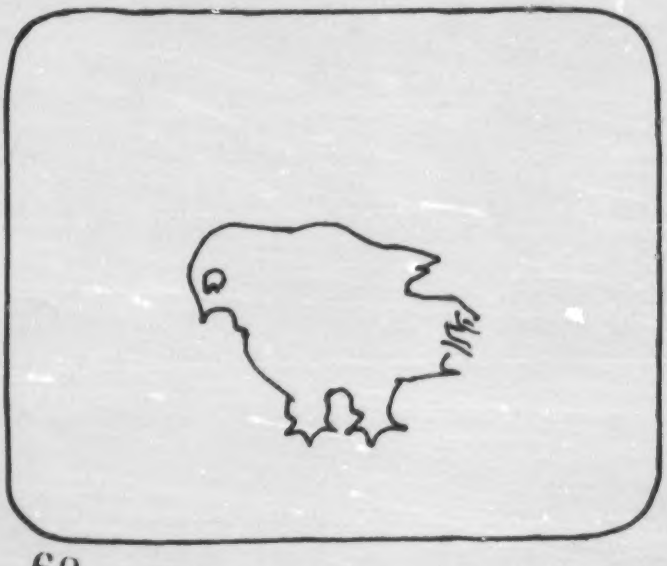
Question 2, Film

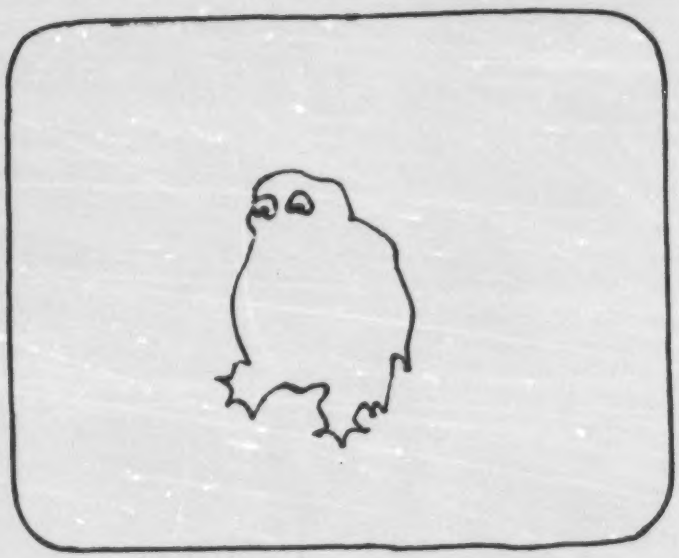


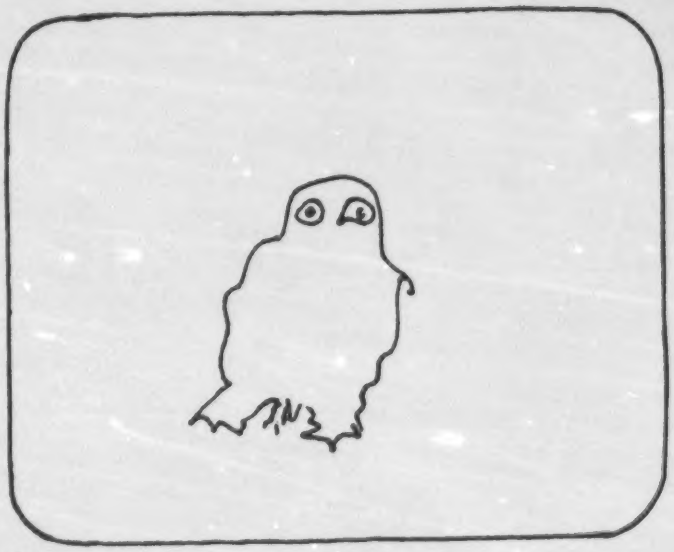












Question 2,
Descriptive Aural Version

Suddenly, he stumbled, lost his balance and got one foot wet. He quickly backed away from the water with his other foot. Standing and gazing into the water . . . the owl again tried dipping his foot into the water, but he looked up, rolled his eyes, and cringing, removed his foot. He took a small step away from the water, blinking, shrugging his shoulders and talking to himself.

Question 2,
Storyteller Version

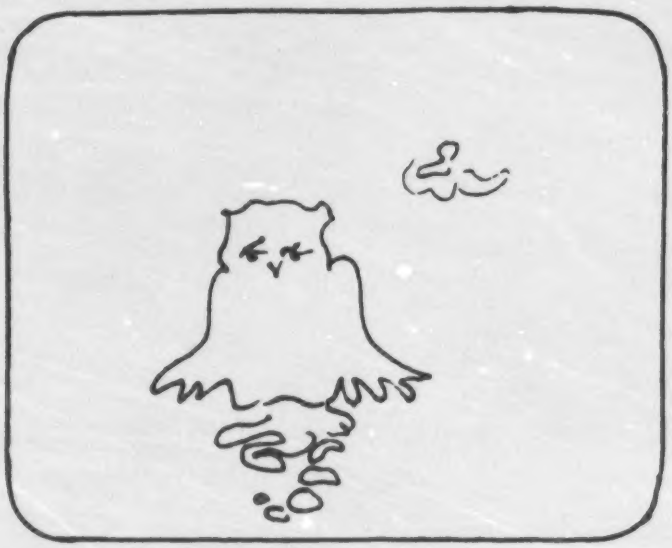
But when he put one foot in the water, it was cold. He put the other foot in the water, it was wet . . . . Owl thought, "It's too deep."

Question 3, also about the owl alone, asked:

3. When the owl noticed his reflection/rested his chin on a piece of ice and his own eyes stared back at him, how did that make him feel?

The information relevant to this question for each version is as follows:

Question 3, Film



Question 3,
Descriptive Aural Version:

The owl extended his wings on either side of his body to support himself on the water's surface. When he looked downward he saw himself reflected in the water. He began to examine his reflection more carefully, winking at it first with one eye and then the other eye. When he looked up, he just shrugged his shoulders.

Question 3,
Storyteller Version:

Owl rested his chin on a piece of ice as clear as a mirror. His own eyes stared back at him.

Because children's inferences about affect in Questions 2 and 3 were more elaborated, they were scored not just by "level" but by categories.

Feelings Findings (See Table 6)

Question 1, Inference Levels. For Question 1 (when the owl was turning cartwheels), most children expressed a simple (Level 1) inference about the owl's feelings ("happy"). However, nearly a third (31%) of the Intact Film children's responses attained Level 2 inferences ("worried . . . that something could have gone wrong"). Questionable inferences were negligible in all but the Descriptive Aural condition, in which there were 20% of the responses ("grumpy"). Perhaps it is harder to plug into a story that you just listen to; and when we consider how much more expressive the Storyteller's text is, it is not surprising to find more questionable responses from children in the Descriptive Aural condition.

For Question 2 (how the owl felt when his foot got wet), most children drew widely from the various inference categories. The most consistent response was found among children in the Intact Film condition. One-quarter (25%) of the responses from that group contained inferences referring to the owl's abilities ("Sad, because he couldn't swim. If he did know how to swim he could go in and see them"). This was a very appropriate way to

Table 6

The Owl's Feelings

		Film		Audio	
		Silent	Intact	Descr.	Story.
		%	%	%	%
Inference Levels	Level				
Question 1: (Owl cartwheel) (Owl's foot gets wet) (Owl sees reflection)	1	80	56	80	87
	2	13	31	--	6
	I/Q/I[a]	6	12	20	6
Question 4: (Goose and goslings go into water)	1	73	53	40	22
	2	27	27	27	5
	I/Q/I	--	7	20	33
	Unscorable	--	13	13	39
Question 5: (Owl tries to keep up with geese)	1	20	41	40	65
	2	13	11	33	--
	I/Q/I	27	35	20	29
	Unscorable	40	11	6	6
Bases for Inference	Inference Categories[b]				
Question 2:	Abilities	18	25	19	17
Question 3:	Abilities	--	--	13	6
	Thoughts	37	44	27	--
	Perceptions	42	33	20	--
Question 4:	Abilities	21	14	32	14
	Events	42	24	28	9
Question 5:	Abilities	15	18	32	5

[a] I/Q/I: Inappropriate/questionable/incomplete.

[b] These were the inference categories used in at least 20% of children's responses.

characterize the owl's emotional response when he tried the water and realized it was not for him.

The Storyteller text made reference to the water being "cold," "wet," and "too deep." Children in the Storyteller condition used that information in their responses, but what we found to be more interesting was that film children, as well, often came up with the words "too cold" in their descriptions of how owl felt when his foot got wet.

Question 3 (about the owl's reflection) elicited a large number of inferences in two categories: Character thoughts and perceptions. The most thought inferences were drawn by Intact Film children (44%) ("He really didn't think he could see himself in the water"). This inference category was also used in 37% of Silent Film ("He didn't know it was his reflection") and 27% of Descriptive Aural responses ("Thought maybe it was someone else"). Perception inferences were included in more than a third of the responses (42%) of children in the Silent Film ("Probably never saw his reflection before") and Descriptive Aural conditions (40%) ("Still didn't know what he was seeing"), and in just a third (33%) of those of Intact Film children ("His first time seeing himself").

This question apparently elicited such a high proportion of internal and cognitive responses projected for the owl in the three de/pictive/scriptive conditions because the film version (which was also the source for the Descriptive audio version) gave more weight to this reflective moment in the story than did the Storyteller version.

In contrast, Storyteller children typically responded to this question with a one-word response such as "sad," "frightened," or "surprised," and no further elaboration. Although the feelings they attributed to the owl were generally appropriate, these children failed to draw inferences that could be scored within the categories we used. Such responses are understandable, given the paucity of information relevant to the question in the Storyteller text. That incident in the

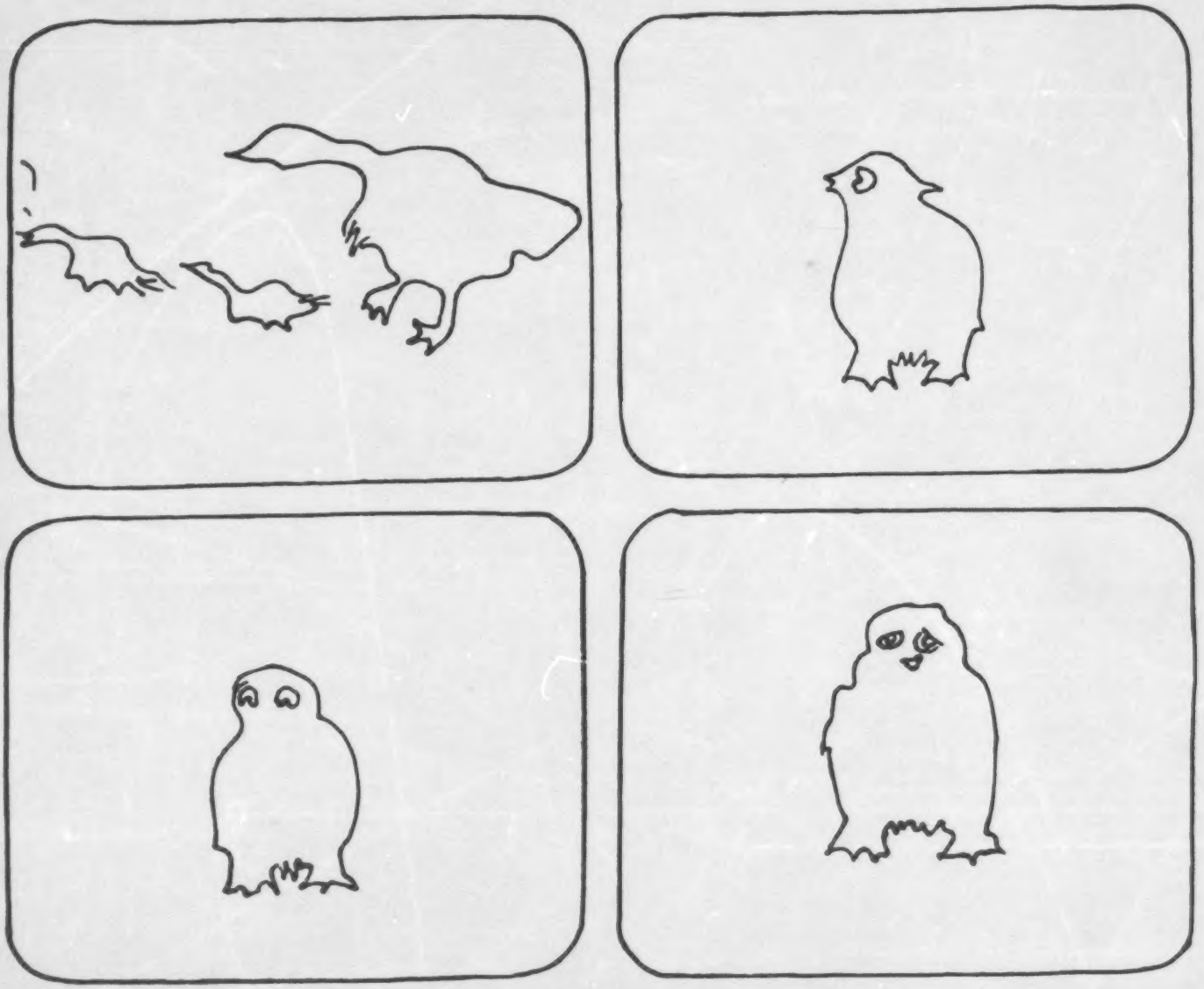
Storyteller version simply is not given the same weight as it was in the other versions of the story.

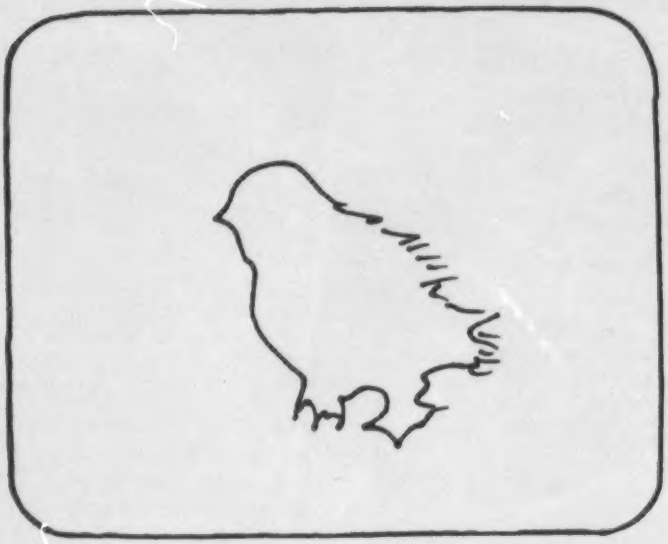
Questions 4 and 5, with bases. Question 4 was another question that involved the owl's relationship to his family and it required that children give evidence for their response:

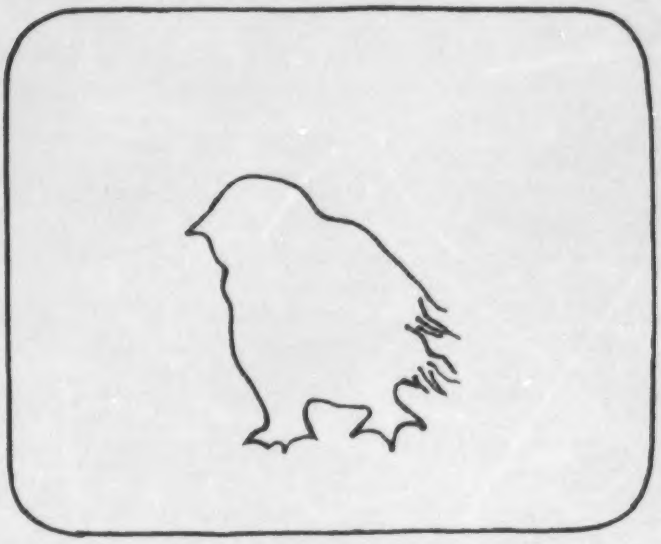
> 4. Do you remember when the goose and goslings went into the water? How did Owl feel then? How do you know he felt that way?

Below are excerpts from the film and text for Question 4:

Question 4, Film







Question 4,
Descriptive Aural Version:

Then the goose moved into place right behind the goslings . . . and swam after her little ones, leaving the owl standing all alone. The owl looked after them and then he looked straight ahead and blinked. His eyes dropped down. He blinked again and walked toward the water breathing heavily. He walked and breathed and walked some more.

Question 4,
Storyteller Version:

Owl's wife led the babies to the lake. One, two, three, four, five, they swam behind their mother. Owl followed but . . . so Owl watched Goose lead the babies to the middle of the lake.

This question was scored for inference "level." The bases were scored for the inference categories children used.

Question 4, Inference Levels. The majority of children in the film conditions and a large minority of Descriptive Aural children (40%) remained at inference Level 1 ("sad"). Twenty-seven percent (27%) of the responses from children in these three conditions attained Level 2 inferences ("kind of left out or lonely"). There were a few (20%) inappropriate or questionable inferences among the children in the Descriptive Aural condition ("happy").

Children in the Storyteller condition appeared to have a different profile. We found 22% Level 1 inferences and only 5% that attained Level 2. One-third (33%) of the Storyteller inferences were judged to be inappropriate or questionable ("sort of good, it was alright"), and more than a third (39%) were judged unscorable. The unscorable responses were not incorrect; these responses merely recapitulated the text, therefore, they could not be scored as inferences. Children in this condition were on a more equal footing with those of the other conditions when we scored their inference bases.

Question 4, Inference Bases. The inference category used most often to explain the feelings attributed to the owl were events and abilities. More than a third (42%) of the children in the Silent Film condition included inferences based upon events ("He was just walking around the pond, waiting for them to get out"), a very good deduction for children who had no clues from the sound track (which included the owl's heavy breathing). About a quarter (24%) of Intact Film children and more than a quarter (28%) of children in the Descriptive Aural condition also drew inferences based upon events ("Because he was pacing around with his head down," and "Pacing back and forth"). These children realized that this event (the owl's pacing) was an important clue to how the owl was feeling when he could see his family, but was not able to join them.

Almost a third (32%) of the Descriptive Aural children drew inferences about the owl's abilities ("He couldn't go into the water with them"). Nearly one-quarter (21%) of children in the Silent Film condition also responded with inferences referring to the owl's abilities ("Because he can't swim). These references to the event of Owl's pacing and to his (lack of) abilities are very sensible story-relevant bases for inference in this question.

Children in the Storyteller condition drew inferences from across the inference categories, with no one category used for very many responses, ("Knew the water was too cold,

but wanted to go out there," "Happy to see all his goslings in the water"). These included thoughts, environment, motives, feelings, perceptions, and goslings.

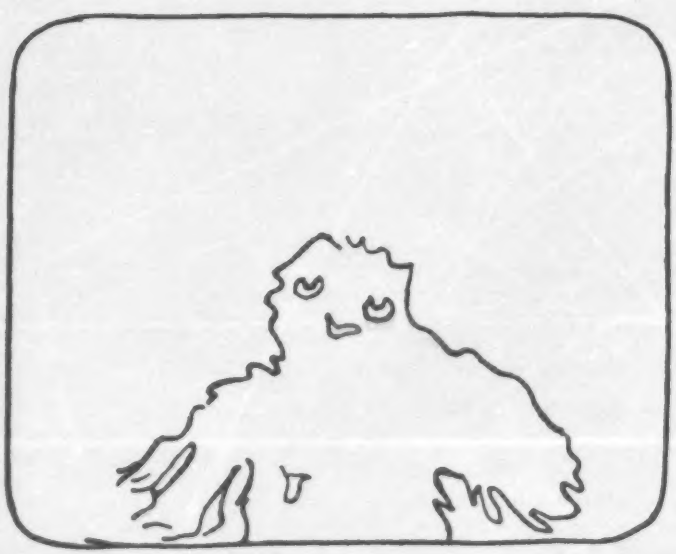
The final question about feelings, Question 5, dealt with Owl's relationship to the geese when they are all flying. This question also required that children substantiate their inferences.

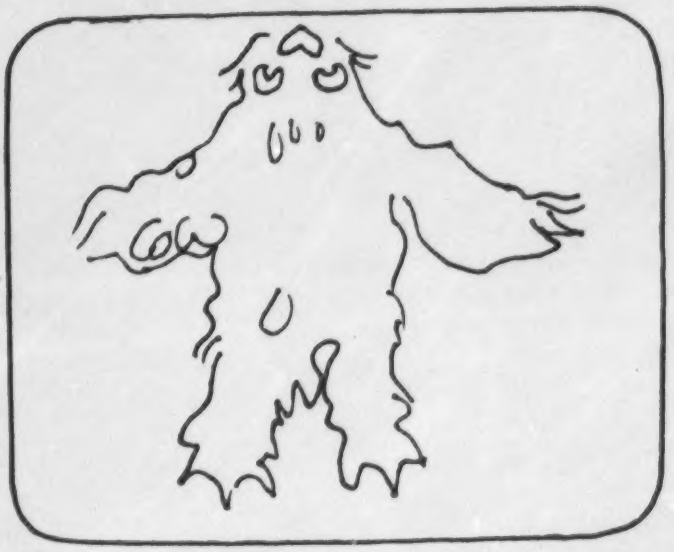
Question 5 was stated as follows:

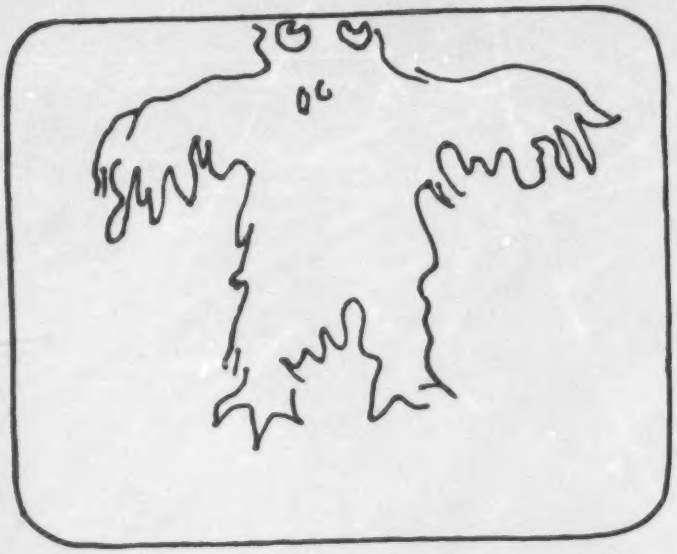
5. When the owl was trying to keep up with the geese, how did he feel then? How do you know he felt that way?

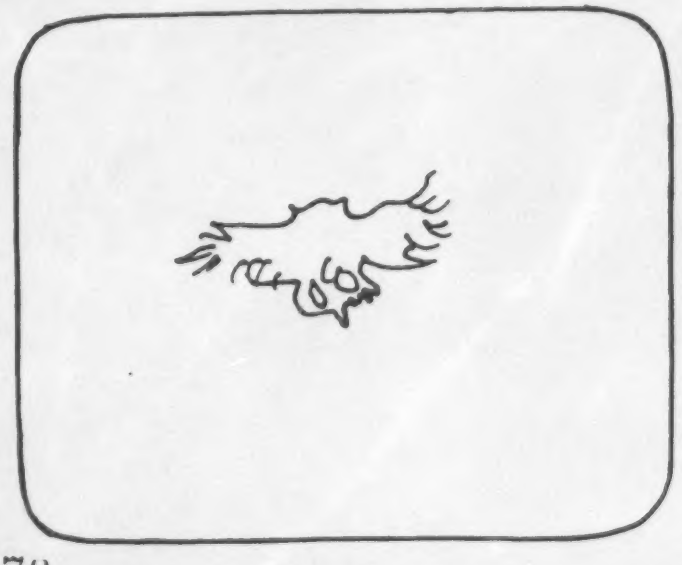
Below are excerpts from the film and audio versions relevant to Question 5:

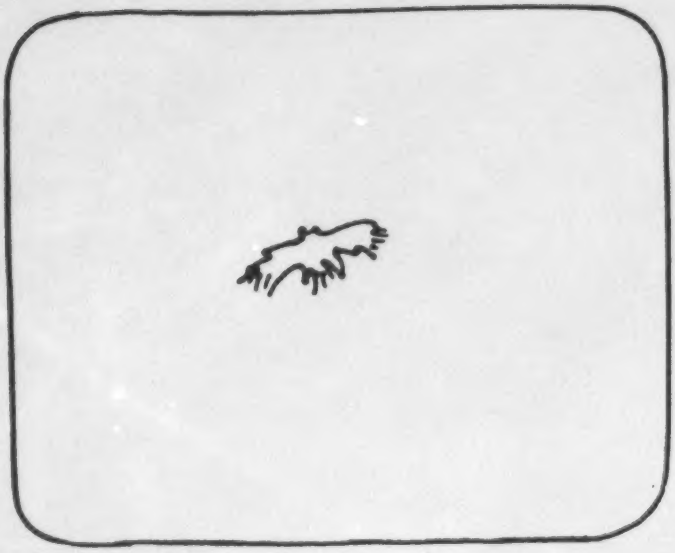
Question 5, Film





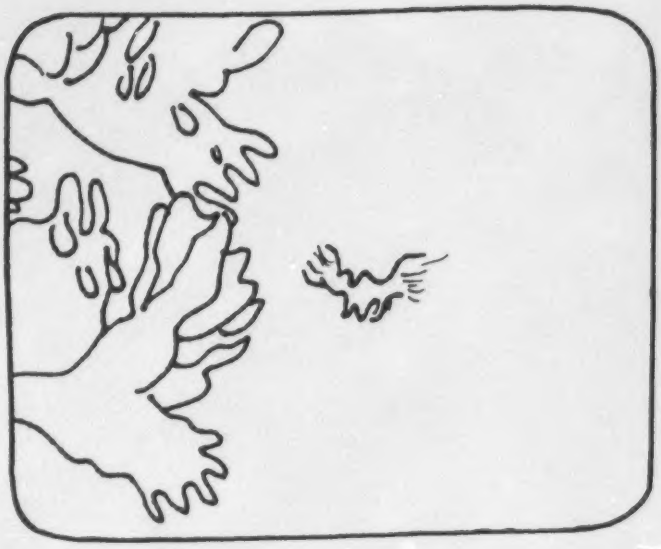






Question 5,
Descriptive Aural Version

The owl set his body in flight position, spun his head all the way around, and flapping furiously was finally airborne. He was flapping with all his might and breathing with enormous effort. The owl managed to disappear off into the sky after the flock . . . . The owl was trying very hard to keep up their pace (and he was breathing very heavily from the effort.)



Question 5,
Storyteller Version

Owl beat his wings with all his strength and flew behind the geese. They flew in a perfect V. Owl followed, struggling to keep up.

Question 5, Inference Levels. More than half (65%) of the Storyteller children, and more than a third of the children in the Intact Film (41%) and Descriptive Aural (40%) conditions scored at inference Level 1 ("tired"). Only 20% of the inferences in the Silent Film condition attained that level.

One-third of the responses (33%) from children in the Descriptive Aural condition were judged to be Level 2 inferences ("that He really could do it if he tried hard"). Far

fewer Level 2 inferences were found in the film conditions and none were found among responses from children in the Storyteller group. The Descriptive Aural children's greater sensitivity to this question may be due to the salience of the owl's (and geese's) breathing on the Descriptive audio sound track.

Question 5 yielded the most questionable inferences, compared with the other four questions about feelings. The Intact Film group had slightly more than a third (35%) such responses ("A little bit happy that he could do it"), while the Silent Film (27%) and Storyteller (29%) conditions had slightly more than a quarter of them ("Feeling sad cause he wasn't as fast as them" or "Happy that he was catching up"). The Descriptive Aural group had the fewest (20%) questionable inferences.

It should be pointed out that, in most cases, these questionable inferences were not incorrect responses. Prior to scoring children's responses, and based upon repeated viewings of the film, the researchers agreed that the most appropriate affects for the owl during that moment were effort/determination, fatigue/exhaustion, and/or frustration. Those less appropriate inferences were just slightly off-target for the criteria that had been established for the owl's affect during that moment in the story. A word of explanation is also needed to explain the unusually high percentage (40%) of unscorable responses in the Silent Film condition. In one case, the question was not asked and in another, the interviewer received a simple "I don't know." The other responses judged to be unscorable failed to infer any scorable affect for the owl ("Maybe he felt that he can't go as fast as them"), but instead, offered a basis for his affect. Again, these responses were not incorrect, they simply were not technically scorable.

Question 5, Inference Bases. For this question (about Owl's feelings when he is trying to keep up with the flock)

children's reasons were widely distributed among the various inferences. They included references to physical relationship ("He was way behind and they were ahead of him"), features/ appearance ("They weren't as heavy as him"), events and motives ("He went down--he wanted to rest"), and sound effects ("He was taking deep-deep breaths").

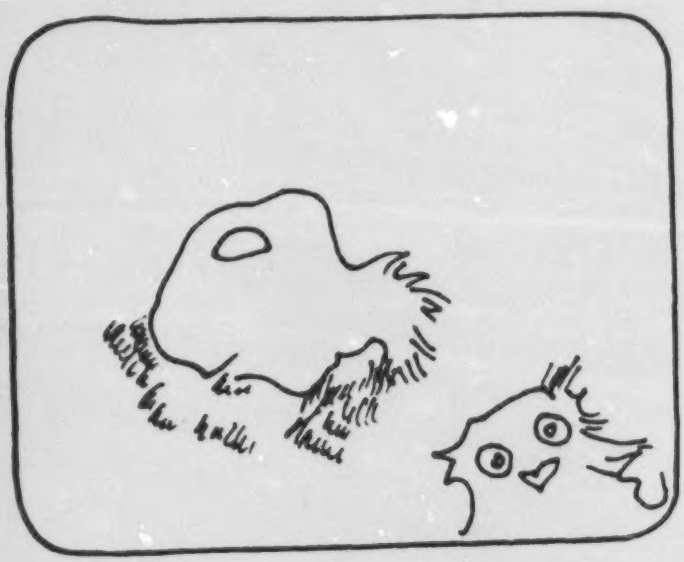
The only category where responses were clustered was abilities. Information about the characters' abilities was found most frequently in inferences made by children in the Descriptive Aural condition. Almost a third of those children's inferences (32%) were about the owl's abilities ("He was having a hard time flying and keeping up" and "Trying to fly, not exactly perfect, but he couldn't do it"). Across all questions, children in the Descriptive Aural condition were the most consistent in drawing inferences about the characters' abilities.

c. Monologues. We selected two places in the story where it was appropriate for each character to deliver a monologue (i.e., to be thinking to herself or himself). We asked children to invent these monologues and attribute them to each of the main characters. The first monologue concerned the goose's thoughts and required that children give a basis for their inference:

1. When the goose was sitting on the nest (watching the owl turning cartwheels/dancing out a rhythm on the earth) what was she thinking? How do you know that?

Below is the relevant information from the film and audio versions for Question 1:

Question 1, Film



Question 1,
Descriptive Aural Version

When the goose was finished she sat down on the nest while the owl sang and danced and turned cartwheels all around her. The goose sat with her beak tucked into her back feathers watching him.

Question 1,
Storyteller Version

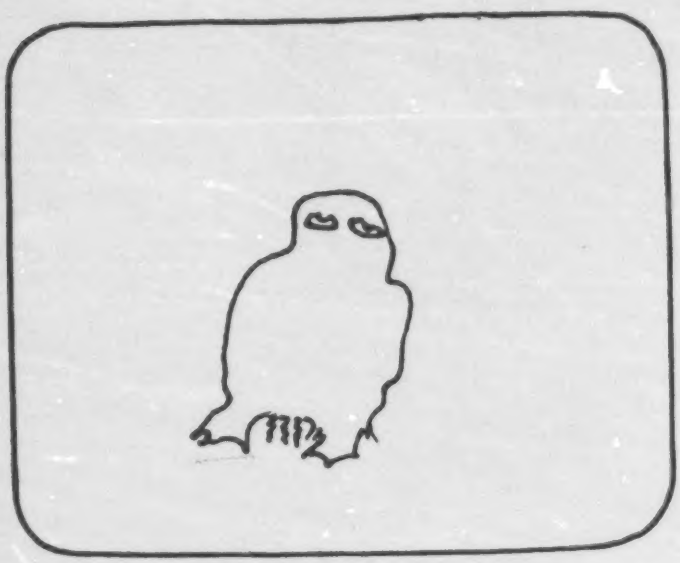
And the goose sat down on the nest. Owl watched. His eyes widened, his heart beat wildly. Owl jumped up and down. His feet beat out a rhythm on the earth. Goose nestled her long neck against her wings and rested.

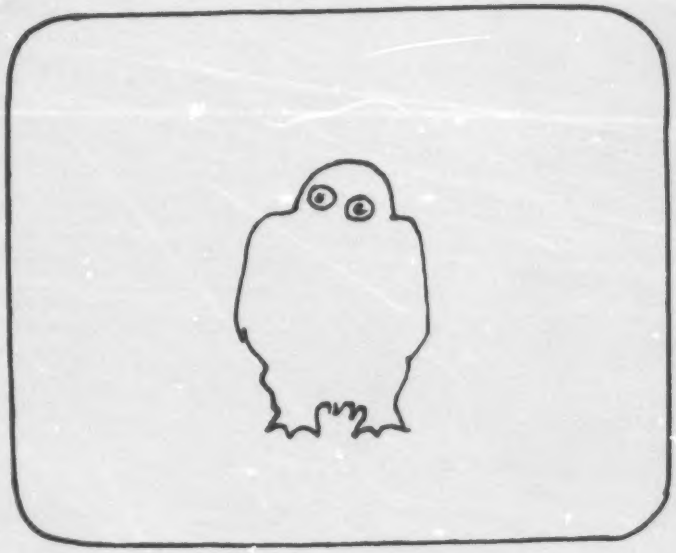
The second monologue question was about the owl and it inquired:

2. When the owl's foot got wet, what did he say to himself then?

The film and audio versions for Question 2 presented the following information:

Question 2, Film





Question 2,
Descriptive Aural Version

The owl again tried dipping his foot into the water, but he looked up, rolled his eyes, and cringing, removed his foot. He took a small step away from the water, blinking, shrugging his shoulders and talking to himself.

Question 2,
Storyteller Version

But when he put one foot in the water it was too cold. He put the other foot in the water, it was wet . . . . Owl thought, "It's too deep."

First we examined which character or characters was made the focus of each of the monologues. For example, who was the goose thinking about while she was sitting on the nest? Was she thinking about herself, the owl, their relationship (both), or perhaps about the goslings-to-be? And when the owl's foot gets wet, who or what is the focus of his monologue?

After Question 1, the goose's monologue, was scored for its focus, the basis (i.e., "How do you know that?") was scored by inference categories.

Monologue Findings (See Table 7)

Focus for the Goose's Monologue. For children in the Silent Film, Intact Film, and Descriptive Aural conditions, the owl was the focus of more than half the responses in the goose's monologue (Silent Film 53%: "That he was the father?" or Intact Film 66%: "That he must be very happy" or Descriptive Aural 58%: "That he was doing pretty good tricks"). In comparison, half of the Storyteller children (50%) saw the relationship (both) as the focus of her monologue ("How happy she was to have the owl"). It should be noted that immediately following the Storyteller passage quoted as relevant information to this monologue, the Storyteller text continues with a song by Owl followed by Goose's song in which she articulates:

> How happy I am to see your heart-shaped face, to hear your hooting voice, to see your joyful dance.

That is, very early in the Storyteller version, children were provided with considerable explicit information about the relationship between the owl and the goose, which included specifying that Owl and Goose were husband and wife; therefore, it is not surprising that many children who heard this version used the information and focused upon the relationship. However, it should also be noted that more than a quarter (27%) of Silent Film children ("That she wanted to get married"), and nearly a quarter (22%) of children in the Intact Film condition ("That Owl wanted to be a part of her life") made similar observations, with the only comparable visual information (presented slightly later in the film) being the hearts that arise between the owl and the goose. The film uses a comic-art visual shorthand (hearts) to depict this information, while the storyteller presents the characters delivering similar information in speech songs to each other. It would seem that one picture conveyed the same idea about the owl and goose's relationship to its film audience, as did the slightly longer worded episode from the storyteller. (See illustration on following page.)

Focus for the Owl's Monologue. Although the majority of children in all four conditions seemed to agree that the owl was the focus of his own monologue, children in the Silent Film condition offered a greater percentage (77%) of Owl/Focus responses ("I'm scared, I don't think that I'm going to like it") than Intact Film children (60%) ("He says he wants to go in . . . he wants to, in a way he can't--he doesn't like it") or either of the audio conditions (DA, 67%: "I wish I could" or SA, 55%: "I can't go in the water, it just doesn't like me . . . it doesn't feel right to me").

Responses using phrases such as: "cold," "wet," or "deep" (referring to the water) could not be scored for focus because they made no reference to the story's characters. Children in the Storyteller condition gave a quarter of those responses (25%) and were scored as "Non-applicable."

Inference Bases. The inference categories used most frequently for Question 1 (the goose's monologue) were feelings and opinion/preference. More than half the children in both the Intact Film (55%) and Storyteller (61%) conditions drew inferences about the character's feelings ("She must have

Table 7

Goose/Owl Monologues

Character Focus		Film		Audio	
		Silent	Intact	Desc.	Story.
		%	%	%	%
Question 1:	Owl	53	66	58	30
	Goose	6	--	21	10
	Both	27	22	5	50
	Goslings	--	12	16	10
Question 2:	Owl	77	60	67	55
	Goose	8	10	--	5
	Both	--	--	7	5
	Goslings	8	10	--	10
	NA	8	15	13	25
	Unscorable	--	5	--	--
Bases for Inference	**Inference Categories** [a]				
Question 1:	Feelings	13	55	12	61
	Opinion/ Preference	33	20	35	17
	Unscorable	33	15	35	17
Question 2:	Environment	22	27	13	52(48 given)
	Abilities	22	27	19	9
	Motives	26	9	19	18
	Unscorable	--	14	25	9

[a]Inference categories used in at least 20% of one group's responses.

thought he was happy and excited" and "She was happy that he was happy that they were married"). One-third (33%) of Silent Film and slightly more than a third (35%) of Descriptive Aural inferences used the opinion/preference category ("That she liked the owl"). The same percentage of responses in these two conditions (33% and 35%) were unscorable ("Like, what is he doing here, or something": and "Why was he doing that?"). These questioning responses suggest the difficulty that some children may have had inventing a monologue at such an early point in the story, when the relationship between the characters was just beginning to develop.

In Question 2 (the owl's monologue) children in both film conditions and those in the Descriptive Aural condition drew several kinds of inferences (environment: "It's cold," abilities: "Oh rats, I can't swim," and interestingly for the Silent Film group, motives: "I don't want to go in the water, I might freeze"). By using motives (26%) as the basis for their inferences, children who saw the silent film generated the most subjective, introspective comments for the owl ("I'm scared, I don't think I'm going to like it").

In contrast, the information provided in the Storyteller version channeled the responses of children in that condition, so that they made the more obvious inferences about the environment (52%) ("I think this is too wet and cold and too deep for me"). In fact, 48% of the environment inferences drawn by Storyteller children were given in the text.

d. Transitions: Estimating time for story events. At two points in the course of the story, we asked children to speculate about the passage of time, and to justify or substantiate their judgments. In our previous research, a tendency was found for children exposed to television and film narratives to perceive shorter elapsed time for events than children exposed to picture-book versions (e.g., Meringoff, 1980). In explaining the reasoning behind their time estimates, it seemed that children found it difficult to discount the real-time

running of a film or TV presentation; for example, they would substantiate giving a short estimate for carrying out an action by noting, "Well, it happened so fast on the screen." In comparison, children presented with picture-book renderings were able to draw upon more real-world experience in making inferences about story time, e.g. "I've seen people do that and it takes a while." This study provided us with another opportunity to examine children's sense of story time.

1. How long did the flock travel? How do you know?

Below is the most relevant information about the duration of the flight provided by each version.

Film

Descriptive Aural Version

She ascended into the sky behind the other geese who were already flying in V formation. The owl set his body in flight position, spun his head all the way around, and flapping furiously, was finally airborne.

He was flapping with all his might and breathing with enormous effort. The owl

Storyteller Version

She flew first, rising into the blue sky to meet the other geese. They flew in a perfect V. Owl beat his wings with all his strength and flew behind the geese. They flew for many days over snow-covered earth. Owl followed, struggling to keep up. One day, when the sun was very bright, Owl saw the

managed to disappear off into the sky after the flock. The geese, having flown some distance, now changed direction, all the while breathing rhythmically and keeping to their formation. The owl was trying very hard to keep up their pace and he was breathing very heavily from the effort.

The flock continued their journey high up in the sky, passing first the sinking sun and then the rising moon. Finally, they began their descent into a dark body of water below. When the geese approached the pond, they slowed their flight until they landed.

geese descend. They swooped down as gently as clouds, Owl was tired. He was glad to rest.

Children's time estimates were sorted on the basis of whether an estimate was given in: seconds, minutes, hours, days, or in longer intervals (weeks, months, or years). Note was also made of whether children acknowledged a duality in event time, e.g., by asking for clarification between "in real life or just on the film?". The bases for their time estimates were analyzed using the inference categories defined on pages 51-52; for example, children called upon distance ("They went from one place to another"), qualitative behavior, such as speed ("The background was going by kind of fast, so it looked like they were flying fast"), physical states ("The owl was all pooped"), physical abilities ("The geese could fly faster"), and a simple recounting of events (They took off/and they were flying for a little bit/and they landed"). They also could refer to explicit cues about time passing, by noting "It was dark or night" (environment), or by remembering "The sinking sun and then the rising moon" (descriptive).

In addition, their reasons were determined to be based upon information given in the story, e.g., "They flew for many days" (Storyteller), upon story-relevant inferences, e.g.,

("Because they might have been flying over the seas"), or upon general world knowledge ("Geese do fly quickly").

Transition 1 Findings

Children differed significantly across medium in the time they estimated it took for the flock to travel ($\chi^2(11) = 21$, $p < .005$), as shown in Table 8.* As predicted, most of the Silent Film audience limited the duration of this event to seconds or minutes, the least amount of time. In contrast, most children who heard the Storyteller version gave their estimates in the longest time frame, using days, weeks, or more. Surprisingly, the Intact Film viewers generated a full range of time estimates, and estimates of listeners to the Descriptive Aural version all clustered between minutes and days. Also as predicted, however, only members of the film audience (N = 6) expressed confusion about which time frame to base their estimates upon, the film or the story.

In order to better understand these differences in the children's perception of elapsed time, let's examine the rationales behind their estimates (see Table 8).

Forty-three percent (43%) of children presented with the silent film relied solely upon given information, predominantly events, as the basis for estimating elapsed time. Reasons consisting of accounts of depicted events were dubbed, "story literal," and they occurred most frequently among this film audience ("It showed in the film, like it showed the owl, then it showed the geese, /and then they landed") (one event). These "story literal" reasons also were associated with the shortest time estimates. Limited reference also was made to depicted time cues, i.e., the darkness and the sun and moon passing behind the traveling flock. Such explanations,

*The chi square test was conducted using the cells for seconds, minutes, and the combined cells for hours, days, weeks, or longer.

Table 8

Transition:
How long did the flock travel?

	Film		Audio		Total Sample
	Silent %	Intact %	Descr. %	Story. %	
Time Estimate (% children)	(N = 14)	(N = 15)	(N = 15)	(N = 14)	(N = 58)
Second	29	--	--	--	7
Minute	43	33	60	7	36
Hour	21	20	40	7	22
Day	7	33	--	64	26
Week +	--	13	--	21	9
Duality	21	20	--	--	10
Basis for Time Estimate[a]	(N = 32)	(N = 30)	(N = 34)	(N = 12)	
Events	47	33	35	17	
Qual. Behavior	13	7	9	17	
Phys. Relationship	---	3	--	--	
Distance	6	10	9	25	
Environment	6	7	9	8	
Descriptive	9	20	12	17	
Abilities	13	3	18	17	
State	3	13	6	--	
Perceptions	3	--	--	--	
Motives	--	3	3	--	
Basis for Estimate: Source	(N = 14)	(N = 15)	(N = 15)	(N = 14)	(N = 58)
Given	43	27	13	57	34
Infer	14	33	20	7	19
G/I	21	27	47	21	29
General Knowledge[b]	7	7	13	7	9
Unscorable	14	13	20	7	14
Basis for Estimate: Content	(N = 14)	(N = 15)	(N = 15)	(N = 14)	(N = 58)
Story Literal (Given Event)	29	13	7	--	12
Unscorable (No Content)	14	13	20	57	26

[a] For the Basis for Time Estimate percentages represent the number of responses, not the number of children responding.

[b] General knowledge is scored both when it is the only basis offered and when it appears in combination with other reasons.

based so directly upon a reading of the images, epitomize the compelling influence that film can exert on children's sense of passing time.

Inferences made by members of the Silent Film audience to judge elapsed time tended to refer to speed ("He was pretty slow"), ability ("The mother had to teach them how to fly"), distance ("flying over the seas"),* and physical state ("The owl was tired").

Not surprisingly, most children (57%) who heard the Storyteller version also relied solely on given content to substantiate their time estimates. In this case, however, the amount of time itself was reported verbally ("They flew for many days"), as a consequence, most of these children had no need to think further and there was no scorable content to their reasons ("I think they said it was four or five days").

In comparison, children in both the Intact Film (60%) and Descriptive Aural (76%) conditions tended to make more use of inferences (exclusively and in conjunction with given information) to explain time passing for this event. Interestingly, two children who saw the Intact Film invented events (scored as inferences) to account for a lapse in time; for example, one of these children explained, "Well, they would have to have all the details. They went past a little maybe swamp, after that they passed trees, and maybe on the way they met a goose." Perhaps this is one way, albeit not an accurate one, to override the power of film's movement in real time. Another, more mature strategy is to bring to bear one's real world knowledge, e.g., "Birds usually fly away to places not near their homes." However, few children made explicit reference to such generalizations. Note, once again, the greater number of references made by Descriptive Aural listeners to

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*That the flock went from one place to another was given information; that they flew over the seas, or that the distance was far, was an inference.

characters' abilities ("Just seeing how long they could fly, just teaching them").

However, it is difficult to account for differences in the time estimates given by these two groups, the Intact Film and the Descriptive Aural. For example, children in both groups used inferences in making both shorter and longer estimates. Moreover, the same inference ("They looked kinda tired") was used as evidence for different flight durations by different children.

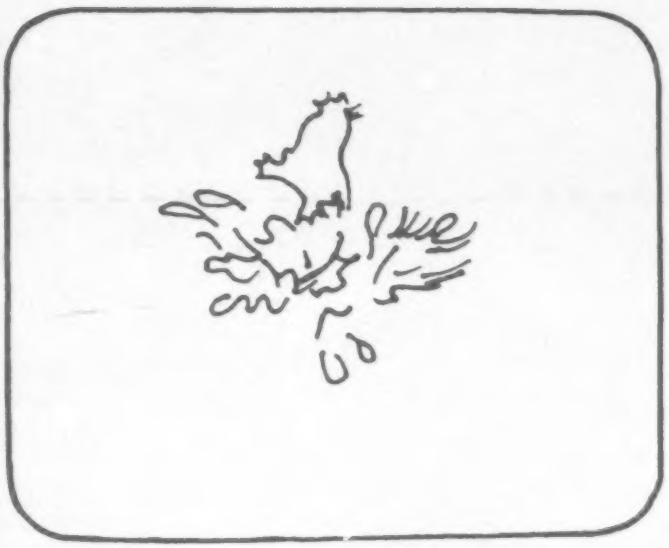
In evaluating the children's responses, perhaps it will help to reckon with how long the flock "actually" traveled. In trying to determine the right answer, or an appropriate answer, it quickly becomes apparent that both given story content and outside story knowledge need to be taken into consideration. One child who saw the Intact Film combined information with considerable skill: "They flew for maybe a day or two, because they were probably flying a long way/because birds usually fly away to places not near their homes/it was starting to get dark/and moons and suns were passing them by." It does seem that estimates given in hours, days, and possibly longer do best justice to both the time cues made available in the story and to one's knowledge of bird flight. In that context, children's performance was the least adequate in response to the Silent Film and the Descriptive Aural version, and most successful in response to the Storyteller version (which related the answer) and Intact Film.

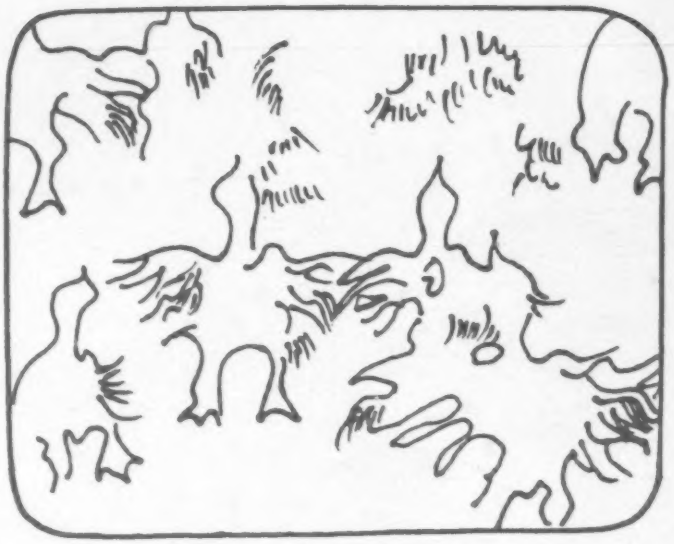
Sense of story time may be one dimension of children's story comprehension which is especially vulnerable to the absence of language and other auditory content.

2. How long a time passed between when the owl threw back the fish and when the geese were flapping their wings, getting ready to fly? How do you know?

Below is the most relevant information about the amount of intervening time provided by each version.

Film





Descriptive Aural Version

The owl picked up the fish by its tail and tossed it forward into the water, where it landed with a splash. The splash grew and spread out and covered everything (sfx: wind blowing). Snowflakes were falling and the geese, now fully grown, were flexing their wings among the flakes of snow. Then they began to flap their wings faster and faster and soon they were flying.

Storyteller Version

Owl stared at it, then he threw it back in the water.

"Owls don't eat fish," he said.

Time passed. It was winter. The snow fell. Owl's children grew as big as their mother. Their grey wings turned white. And one day many geese came. Owl and his wife and children stood among them. Owl watched them spread their wings. They spread their wings as if they danced the winter welcome. Then, one by one, the geese flew away.

Children's time estimates and supporting evidence were handled the same way as in the previous time question.

Transition 2 Findings

Most children who saw either film version or who heard the Descriptive Aural tape gave estimates in terms of seconds or minutes, as shown in the table below. Once again, even

though some film viewers (23%) acknowledged the duality between real time (the running film) and story time, e.g., "10 seconds in the film, about a minute in the story," and rightly tended to assign the longer time to the story, they apparently were unable to override the actual time used to make the transition between scenes. Only in response to the Storyteller version did the majority of children give lengthier estimates (in hours, days, weeks, or more). As a consequence, only a small proportion (19%) of the total sample gave appropriate estimates of elapsed time (in weeks or longer).

We can characterize the children's confusion by making several observations about their reasoning (see Table 9).

First, there were generally more unscorable comments given in response to this question; these included estimates with no substantial evidence ("Cause it didn't take too long") and occasional valiant yet cumbersome attempts to differentiate between story events and real life ("Three and a half minutes: If I could picture it in real life, not the story, the story has to say things in real life but it doesn't have to have all the details."

Also, the Silent Film audience used a similar strategy to that observed in the previous time question: most often they reiterated the events they saw to account for the short amount of intervening time, e.g., "Two and a half minutes: The owl was kinda standing there/he threw the fish back/and then the geese were flapping" or simply, "Cause it went right from one thing [happening] to another."

The most specific cues to the lengthy lapse in time offered by the film, i.e., approaching winter (snowflakes falling, wind) and mature goslings (larger in size) came to the aid of only a handful of children. Although listeners to the Descriptive Aural version again made slightly greater use of inference-making than the other groups, they too were generally misled by the short lapse between reporting the two events ("You had to say that part first, and then say when the

Table 9

Transition:
How long between when owl threw fish back
and geese were ready to fly?

	Film		Audio		Total Sample
	Silent %	Intact %	Descr. %	Story. %	
Time Estimate (% children)	(N = 15)	(N = 15	(N = 14)	(N = 15)	(N = 59)
Second	27	13	7	--	12
Minute	60	53	64	33	53
Hour	7	--	7	33	12
Day	--	7	--	13	5
Week +	7	27	21	20	19
Duality	13	33	--	--	12
Basis for Time Estimate[a]	(N = 22)	(N = 16)	(N = 29)	(N = 22)	
Events	82	50	41	55	
Environment	--	6	17	23	
Descriptive	5	--	--	--	
Abilities	5	13	7	5	
State	5	19	7	--	
Appearance/features	5	6	--	9	
Perceptions	--	--	17	--	
Motives	--	6	7	9	
Dialogue	--	--	3	--	
Basis for Estimate: Source	(N = 15)	(N = 15)	(N = 14)	(N = 15)	(N = 59)
Given	53	33	50	33	42
Infer	7	13	21	20	15
G/I	13	13	21	7	14
General Knowledge	--	--	--	13	3
Unscorable	27	40	7	27	25
Basis for Estimate: Content	(N = 15)	(N = 15)	(N = 14)	(N = 15)	(N = 59)
Story Literal (Given Event)	47	20	29	27	31
Unscorable (No Content)	27	40	7	27	25

[a]For the Basis for Time Estimate percentages represent the number of responses, not the number of children responding.

geese started to fly"). Surprisingly, even listeners to the Storyteller rendition made relatively little use of the explicit time information provided ("Time passed. It was winter . . . Owl's children grew"); of course, when they did, their responses were accurate ("About four months, because it must have been late summer when she threw it [fish] and then came winter when they were gonna go").

Perhaps the question itself was too confusing. For example, children might have known that it was winter if asked in which season the geese flew away. Also, the time cues offered (at least by the film) were subtle and easy to miss. However, the difficulty children had with this scene transition, children already 10 and 11 years old, points up how important it is to carefully delineate time and place changes in stories made for children. Noteworthy in this context is an observation made by Watkins, Cojuc, Mills, Kwiatek, and Tan (1981) about stories written by children with either low or high prime time television viewing experience: "High viewers' stories 'feel different' from those of lower viewers . . . . Often in these narratives, there are temporal gaps in the flow of the stories; these gaps in many ways model the TV grammar of scene changes, sometimes comprising large units of time."

e. Qualitative Behavior.

"Describe how the geese landed."
"How did the owl land?"

The two questions pertaining to the characters' qualitative behavior were scored in three ways: first, we compared each child's description of the characters' landings to see how aware they were of the difference in performance ("They landed softly on the water/He landed hard"). We also looked at the number of verbs, adverbs, adjectives, and/or spatial directional terms such as: down, under, back, through, etc., that children used. Finally, we monitored whether children volunteered gestures to illustrate their verbal responses to these questions.

Below is the content offered by the two aural versions describing how the characters landed:

Descriptive Aural Version	Storyteller Version
When the geese approached the pond, they slowed their flight until they landed. As the flock sat in the moonlight grooming their feathers and resting, something fell from the sky and splashed into the water. The geese scattered.	One day, when the sun was very bright, Owl saw the geese descend. They swooped down as gently as clouds . . . . Turning downward, Owl tried to land slowly too, but as he drew nearer to the earth, he saw it was not earth but water, but it was too late. Owl lost control of his wings and went tumbling into the dark sea.

Qualitative Behavior Findings (See Table 10)

- Degree of contrast between the landings: Most children exposed to the story did not express awareness of the high degree of contrast between the characters' actions when they landed. However, descriptions offered by children in the Intact Film condition indicated the greatest awareness (53%) of difference in performance between characters (e.g., geese: "glided onto the water"; owl: "crashed").

- Use of descriptors: Children in the Descriptive Aural condition used verbs as descriptors most often ("They flapped, dived, floated, sat" or "He dropped, fell, splashed, sank"). Although the number of instances of verb use by children in the Descriptive Aural group was higher than that of children in other conditions, a greater variety of different verbs was noticed in the other children's responses. For example, "They swooped, descended, glided, curled their wings, jumped, hit the water" or "He jumped, tried to glide too, lost control, tumbled, plunked, crashed, flopped."

Table 10

Characters' Qualitative Behavior

		Film		Audio		Total Sample
		Silent %	Intact %	Descr. %	Story. %	
Contrast Between Characters		(N = 15)	(N = 15)	(N = 15)	(N = 15)	(N = 60)
1. High		33	53	20	40	37
2. Medium		33	33	40	40	37
3. None		20	13	20	7	15
4. Unscorable		13	--	20	13	12
Descriptors: How They Landed [a]		(N = 34)	(N = 40)	(N = 26)	(N = 30)	(N = 133)
1. Verbs	Geese	59	63	73	30	36
	Owl	63	74	78	50	64
2. Spatial/ Direct	Geese	26	25	10	18	21
	Owl	23	22	13	24	21
3. Adjs/ Advs	Geese	15	13	14	50	23
	Owl	13	4	8	26	13
Volunteered Gestures		(N = 15)	(N = 15)	(N = 15)	(N = 15)	(N = 60)
1. Geese		60	27	20	20	32
2. Owl		53	20	--	33	27

[a]For the descriptors percentages represent the number of responses, not the number of children responding.

Storyteller children's responses contained the most adjectives and adverbs ("They landed slowly and gently; they went down nice and easy"). While the storyteller provided much of this information, children in the two film conditions were left a lot of leeway in the ways in which they might describe the landings.

For the question about the geese landing, children in the two film conditions used slightly more spatial directional references than those in either aural condition (SF: "They went down and landed with their feet first" or II: "They landed with their wings back and feet curled up, like they were sitting down").

In the question about Owl's landing, about a quarter (24%, 23%, 22%) of the children in the Storyteller and two film conditions used spatial directional terms; for example, in the Storyteller condition: "He was coming down, he was coming down, like, straight down, and when he saw there was only water there he tried to go up, but it was too late and he just went in." Children in the Descriptive Aural condition had the fewest spatial directional references. This lack in their performance is understandable when we compare the information provided in each aural version.

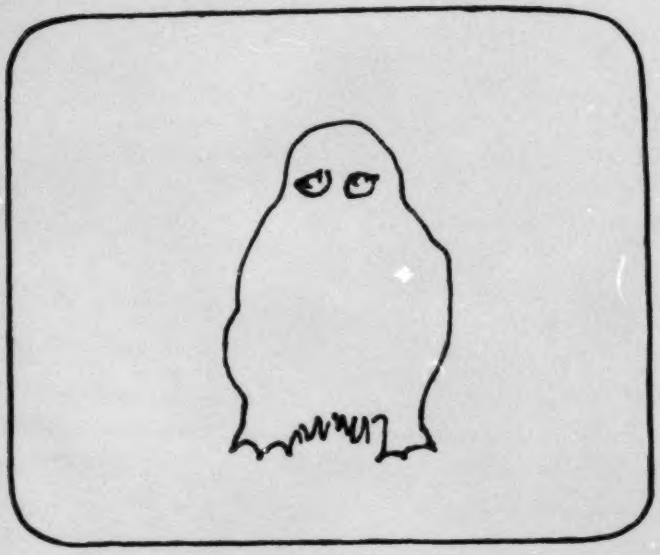
Descriptive Aural children were offered minimal information and though they recognized that the owl fell into the water with a splash, they did not go beyond what was given. Storyteller children also used the information given them, but what was provided by that version was richer in description and certainly emphasized both space and direction. Finally, it was film children who more consistently inferred spatial directional information from the pictorial presentation.

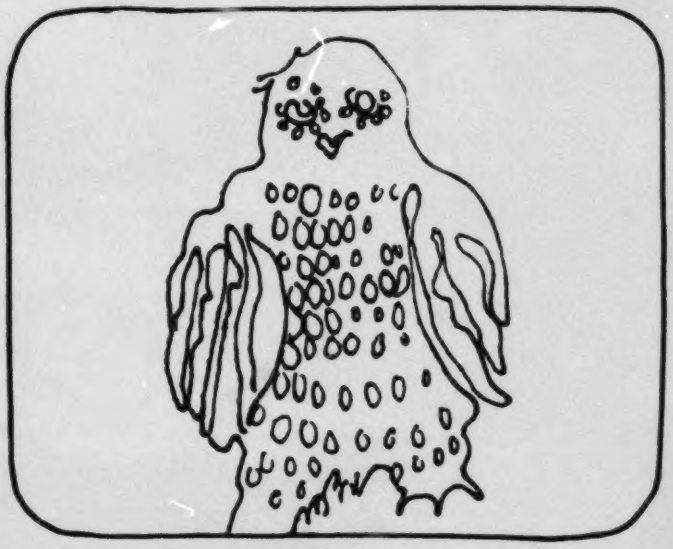
▫ Gestures: Children in the Silent Film condition volunteered gestures most often in response to these questions. There was one instance of a Silent Film child who responded to both questions with only gestures, no words.

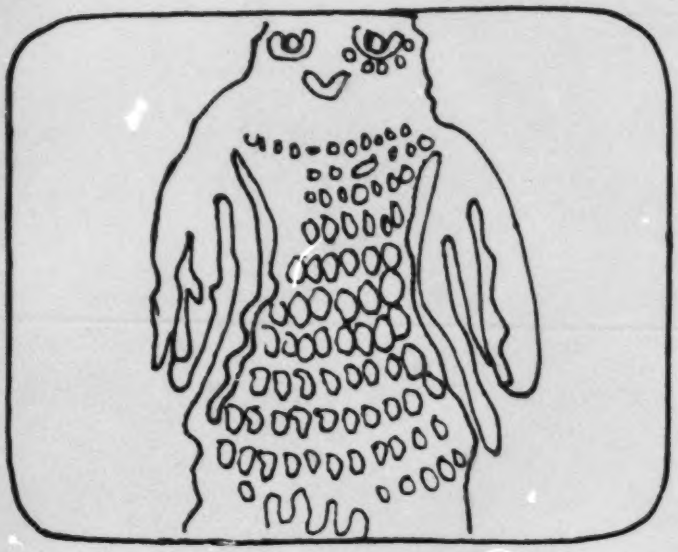
f. Perception of Incidental Visual Content.

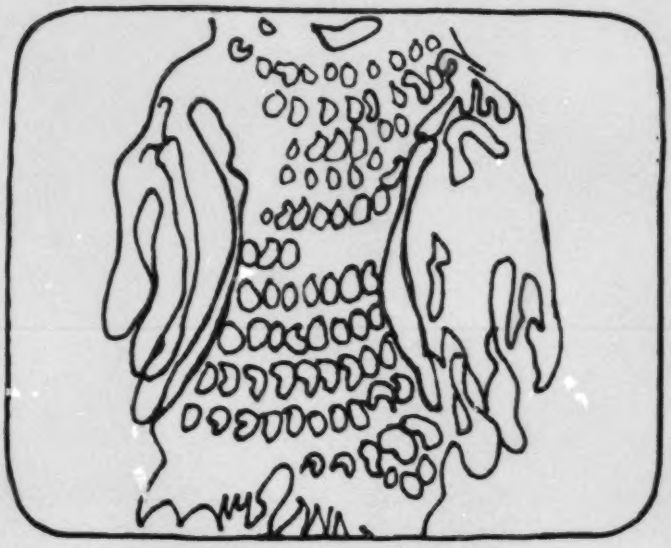
"When the owl walked toward you and came closer and closer, did you know anything about him then that you didn't know before?"

We asked only film children whether they remembered and could interpret one instance of incidental visual information contained in the film that was used by animator/filmmaker as a scene-transition device. This moment in the story occurs at the end of the scene in the film when the owl's foot accidentally gets wet; having removed his foot from the water a second time, he looks left toward the others and then looks right. He blinks and shrugs his shoulders and begins walking directly toward us (the viewers). He becomes larger and larger as he approaches,

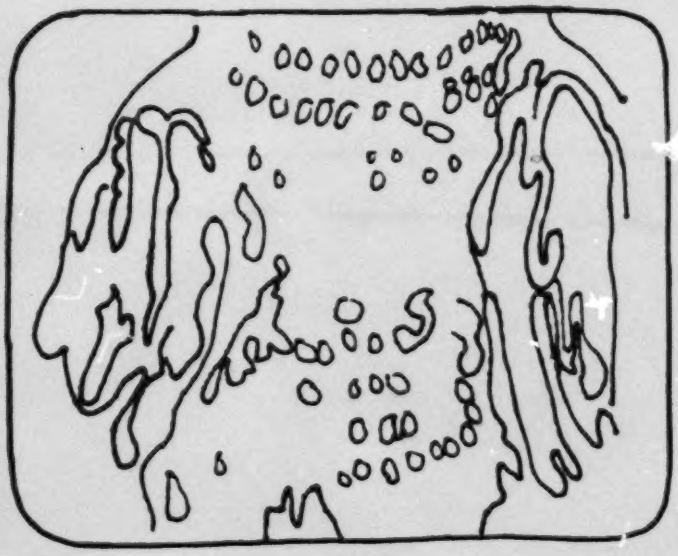


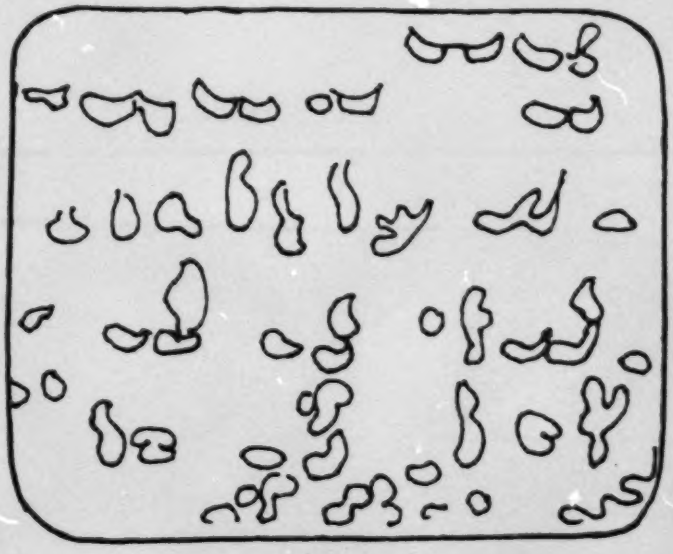




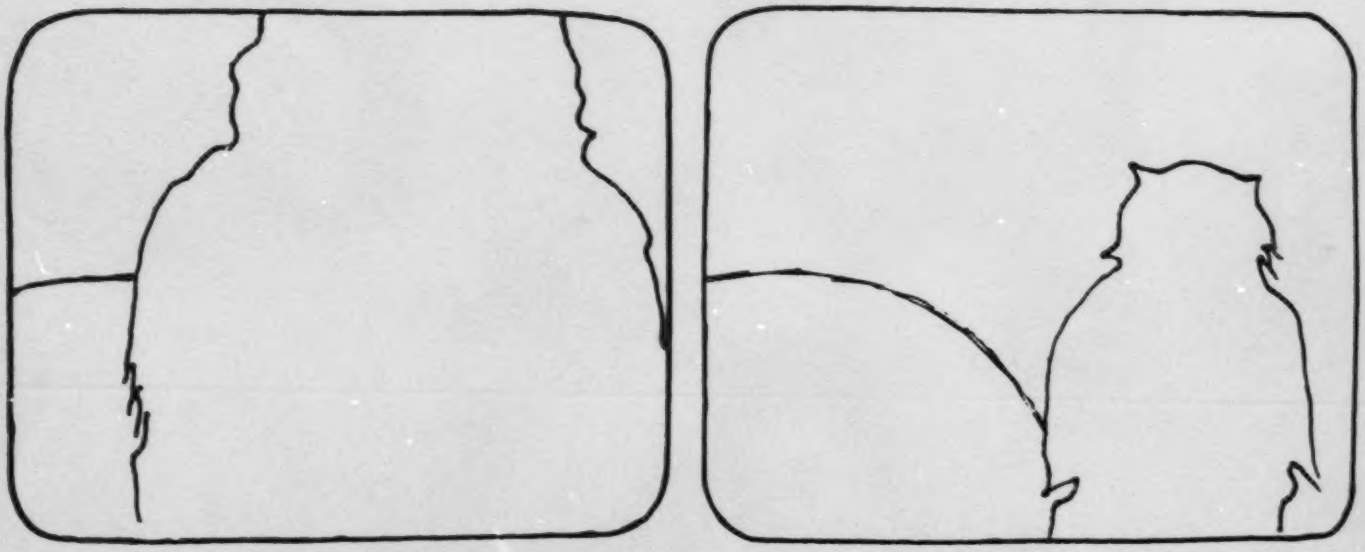


and increasingly, we are able to see the pattern of his breast feathers. Soon this feather pattern is all we are able to see, as the owl walks right out of the center of the frame.





In the next scene, the owl's back is seen reentering the frame. As he continues to walk away from us, toward the curved line which delineates the pond, he again diminishes in size.



Perception of Incidental Visual Content Findings

Thirty percent (30%) of the Intact Film children and 27% of those in the Silent Film condition noticed something worth commenting about in response to the question. Most observations were about texture ("Scales and feathers"; "Wrinkles on his stomach, . . . like strong muscles"; "They looked kind of scaley, the pieces of . . . the hair on his stomach, it kind of looked like scales"; "The thing on his chest? Fur.") pattern ("Dots over here all up and down"; "Checkers on his stomach"; "Squares, little round things"), or else about his facial features ("His mouth was roof-like, going down like an upside-down triangle").

Just over half (53%) of the children in the Intact Film condition and 46% in the Silent Film condition said that they did not know anything now about the owl that they hadn't known before. A small minority of children (13%) in each condition offered physical gestures (e.g., using hands across their chest area), in addition to their verbal response.

Finally, 13% of Intact Film children and 26% of those in the Silent Film condition did not remember the place in the story we were asking about or did not answer the question.

These findings suggest that the majority of these children either failed to remember this short transition, or did not necessarily find it informative. It was not essential to the story's plot and therefore had little to do with children's grasp of the story line. If attempting to understand the story is children's primary concern at this age, then this kind of visual close-up may be largely ignored or else quickly forgotten, unless it is inherently more appealing or more closely allied with important feelings or events.

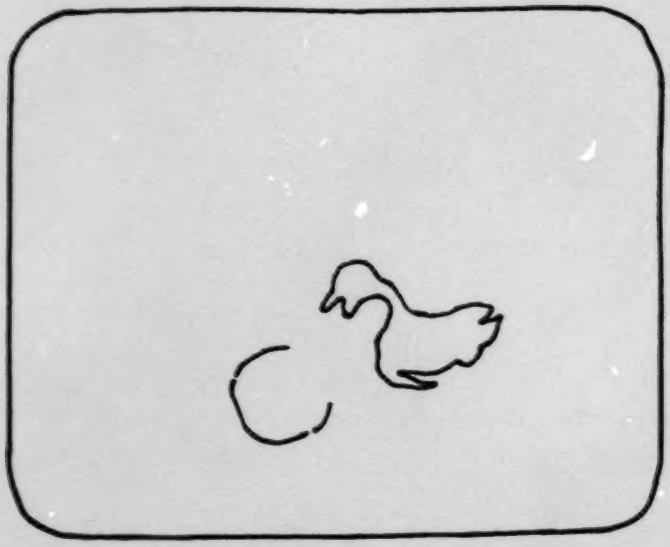
g. The Story's Fnding. We used a carefully structured set of questions to help us learn how well children understood and came to terms with the story's ending.

The first question we posed as the story is drawing near its conclusion dealt with the goose's reaction.

"What happened when the goose looked for the owl?"

Below is the relevant information about that part of the story:

Film



(This final frame of the goose is followed by a fade-out of her image.)

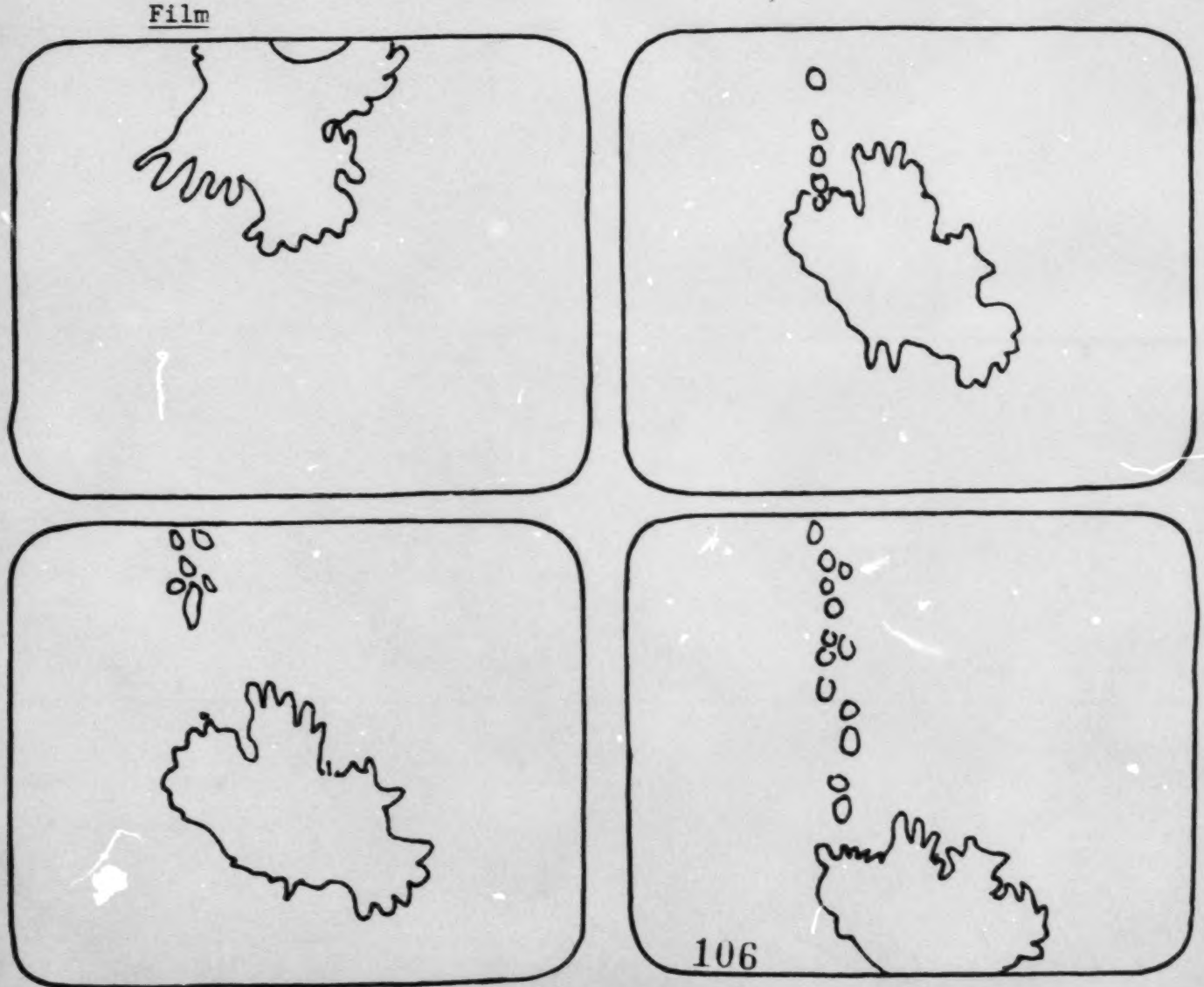
Descriptive Aural Version	Storyteller Version
There were only ripples on the water's surface when the goose arrived at the spot where the owl had been. She called to him for the last time, but the only answer she heard was the sound of bubbles under the water.	Goose came back. Goose dipped her head under the waves. "Good-bye Owl," she said.

Then we asked about the owl's final outcome:

"What happened to the owl? Why?"

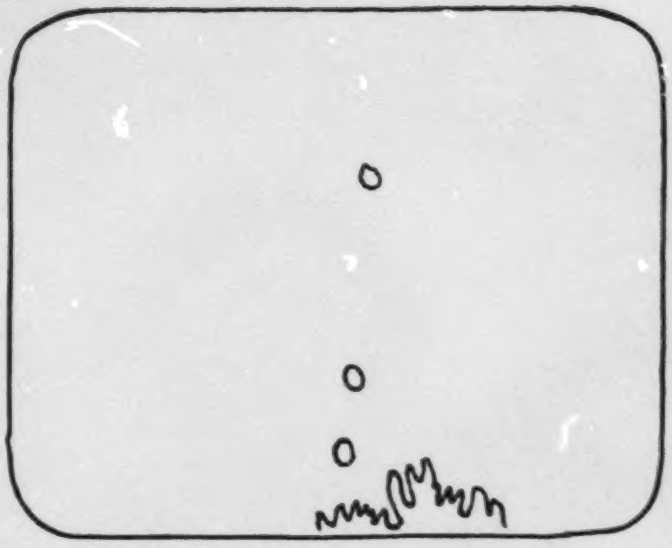
Below is the relevant information about that:

Film



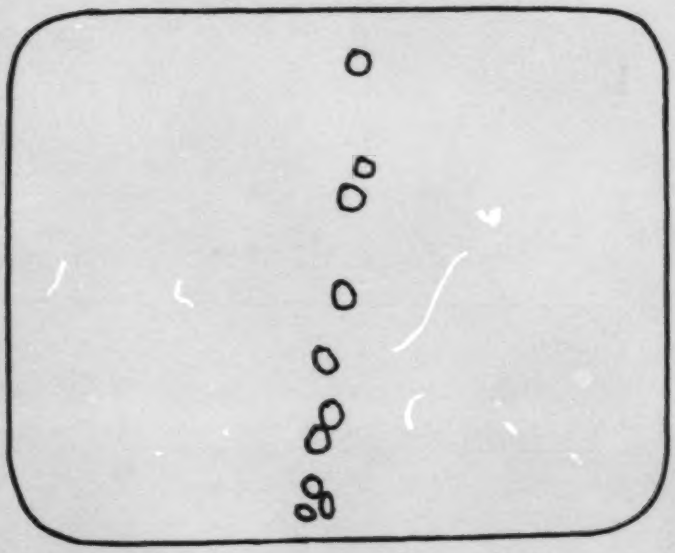
Descriptive Aural Version

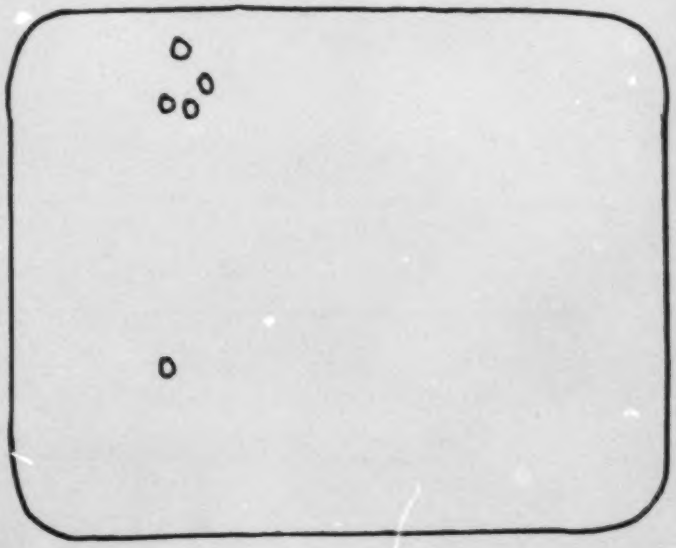
The owl was sinking slowly down beneath the water. Bubbles were rising from his mouth and moving directly upward towards the water's surface. As the owl disappeared downward there was only blackness and a line of white bubbles rushing upward. Then, there was only blackness and the sound of bubbles.



Storyteller Version

She saw Owl's body falling to the bottom of the sea. Goose hovered above the water. She watched until the bubbles from Owl's breath vanished. She watched until the water was still.





We have now presented the end of the story in all versions. It should be noted that the film and Descriptive Aural versions are given through the third person, while the Storyteller version is seen through the eyes of the goose. Our questions now returned to the goose and inquired about her final outcome:*

"What happened to the goose? How did she feel?"

Then we asked children to make a judgment about the owl's behavior throughout the story:

"Did the owl make any mistakes? Why did he do those things?"

Finally, we asked the children outright:

"So what's the point of the story?"

Children's ideas about the goose's final outcome and her feelings at the end of the story were scored in two ways. For the goose's outcome, we noted whether children decided that she would join the other geese (information suggested only in the Storyteller version, just prior to the section quoted here), or some "other" resolution ("She swam away" or "She went under to try and help him"), or whether children stayed with the information presented in the de/pictive/scriptive versions without attempting to imagine the goose's existence beyond the last moment of the story. We scored responses about the goose's feelings using the two inference categories children drew upon the most, feelings ("sad") and relationship ("She lost her mate"), and for "other" inferences, which were either appropriate or inappropriate ("She wouldn't be able to see him anymore" and "Same as the owl, happy?", respectively).

With respect to the owl's position at the story's conclusion, we divided our scoring process into three parts. The

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*The story's materials about the goose's outcome are left ambiguous.

first dealt with the owl's outcome. For this question we were interested in whether or not children mentioned that the owl drowned or died, because that observation would indicate that they acknowledged the story's tragic ending. If children did not use either "drown" or "die" but mentioned that the owl sank, we scored those responses separately. We also noted whether "drowned" or "died" was mentioned spontaneously, i.e., in response to "What happened when the goose . . . etc.?" The second part ("Did the owl make any mistakes?") referred to the owl's actions more generally and was meant to probe children's apprehension of the events that precipitated this conclusion. Children's responses were scored for whether or not they acknowledged the owl's mistake(s), the number of mistakes mentioned ("Flying and landing in the water") and whether the mistakes observed related to specific or to more general events ("Yeah, he married the goose" or "he should be friends with owls, not geese"). The third part dealt with Owl's motivation ("Why did he do all those things"), really the crux of the story. Since children's responses basically fell into two categories, relationship ("He loved the goose and wanted to be with her," and/or achievement ("He wanted to show them he could fly like the others") those categories were used to score all responses.

In asking children about the point of the story, we wanted to see the extent to which they would bring their own knowledge or values in interpreting the story. Therefore, we scored responses as Level 1 when children stayed within the story's context ("Owl did anything he could for the goose, he liked the goose"). Such a score did not slight those children's grasp of the story's meaning; it only indicated that children giving such responses confined their interpretation to the realm of the story. We scored as Level 2, responses that included statements with more general applications ("that you don't have to prove anything by yourself, just do it, what comes naturally").

Story's Ending Findings (See Table 11)

▫ Goose Outcome. The majority of children went beyond the information given at the end of this story (a story which left the resolution of the fate of one of its main characters ambiguous), leading us to believe that children need to resolve a story's plot at least as much as do adults.

Almost half the children in the Storyteller condition (47%) took advantage of information given slightly earlier in the text, when dealing with the goose's outcome ("She flew south with the rest of the geese"). That earlier portion of the text states: "Owl, these are my people. I must join them and fly south for the winter." Slightly more than a quarter of the Storyteller children (27%) used only information given about the ending ("She watched him until there were no more bubbles"). There was only one response from the Storyteller condition which was inappropriate and clearly showed a lack of understanding of the story's conclusion ("She helped him out of the water and stuff").

The film conditions had far more "other" responses than either audio version. Nearly half of the Silent Film children (47%) had "other" responses such as "Goose went under for him and couldn't find him," and "She went back to her nest and started flying south." Interestingly, two Silent Film responses inferred the information "given" in the Storyteller version ("Went off with the other geese"). Slightly fewer (40%) of the Intact Film responses included "other" goose outcomes ("She went down after him and drowned too. Maybe not. Probably. She probably did.") It should be noted that these unresolved responses were certainly appropriate, particularly for children in the de/pictive/scriptive conditions, because the film merely fades out on the goose after she swims to the spot where the owl had been and she is not seen again. This also may have been the reason a third of the Silent Film children (33%) and more than a quarter of the children in the Intact Film

Table 11

Ending of Story

	Film		Audio	
	Silent %	Intact %	Descr. %	Story. %
Goose Outcome	(N = 15)	(N = 15)	(N = 15)	(N = 15)
Joins others	13	20	20	47[a]
Other	47	40	27	13
Doesn't go beyond	33	27	40	27
Unscorable	7	13	13	13
Goose Feelings	(N = 20)	(N = 21)	(N = 19)	(N = 20)
Sad	65	57	63	60
Relationship	20	29	21	25
Other	15	14	16	15
Owl Outcome	(N = 20)	(N - 18)	(N = 17.5)	(N = 15)
Mention drown/die	55	56	49	53
Mentions spontaneously	30	22	23	13
Does not mention	15	16	23	33
Unscorable	--	5	6	--
Owl Mistakes	(N = 30)	(N = 30)	(N = 27)	(N = 34)
Yes	73	80	60	87
No	27	20	33	13
Specific	14 (1 inapp)	13 (1 inapp)	13 (2 inapp)	18
General	1	2	--	1
Why did he do . . .?	(N = 15)	(N = 15)	(N = 15)	(N = 15)
Relationship	71	69	38	88
Achievement	29	25	50	6
Unscorable	--	6	12	6
The Point	(N = 15)	(N = 15)	(N = 15)	(N = 15)
Level 1	53	26	20	46
2	40	60	66	47
Unscorable	6	13	13	6

[a]Based upon information given in Storyteller version.

Table 11 (continued)

	Film		Audio	
	Silent %	Intact %	Descr. %	Story. %
Themes	(N = 15)	(N = 17)	(N = 17)	(N - 15)
Love	47	33	20	40
Identity	13	20	40	6
Achievement/Competence	13	40	47	27
Other	27	20 (1 inapp)	6	27
Unscorable	--	--	--	1

condition (27%) failed to speculate beyond what was presented in the film version ("She lived . . . didn't go underwater trying to look for him" or "They didn't really show her . . . she must have been floating off or something"). However, it should be remembered that a majority of children went beyond the given to resolve the goose's fate.

Children in the Descriptive Aural were least inclined to go beyond the given information in accounting for the goose; forty percent (40%) of the responses did not go beyond what had been given ("She came over there to try and look for him, but no answer--there was only bubbles"). Just over a quarter of the responses (27%) inferred "other" outcomes ("She just went on the shore"). Less than a quarter of the responses (20%) suggested that she joined the others ("Flew off to live with the other geese").

- Goose's Feelings. Children in all conditions had no difficulty understanding the goose's feelings of sadness at the story's end, more than half the children in each condition (SF:65%, IF:57%, DA:63%, and SA:60%) acknowledged this affect in their responses ("sad," "bad," "heartbroken"). In addition, about a quarter of the children associated those feelings to the goose's and owl's relationship ("Sad, she lost a friend"). The scattering of "other" feelings mentioned across conditions included: "Guilty, she might have helped him but she didn't," "Scared, that he might die," and "Sorry for the owl cause he had no one to be his friend." There were also a few inappropriate "other" responses such as: "Pretty angry--cause the owl was behind" and "Same as the owl, happy?" However, most children made accurate use of the story content and logically interpreted the goose's feelings ("She wanted the owl to be there").

- Owl Outcome. About half the children across all conditions stated clearly that the owl drowned or died (SF:55%, IF:56%, DA:49%, SA:53%. It should be noted that when asked

"What happened when the goose looked for the owl?" children in the Silent Film condition most often (30%) made a spontaneous mention of the owl's demise ("She was looking for him cause he was under the water--he already drowned"). However, a third of the children in the Storyteller condition (33%) and nearly a quarter of the Descriptive Aural children (23%) failed to state this explicitly in their responses. These children remained with the obvious, that he sinks under the water ("He sank--he was too heavy" or "Sunk to the bottom--went out of breath"). These responses were left ambiguous even though it required only a slight inferential leap to assert that he dies or drowns; however, this smaller group of children from the two audio conditions didn't take that further step.

- Owl Mistakes. When confronted by the question about where the owl went wrong, i.e., the actions which lead to his demise, the great majority of children acknowledged that he had made mistakes (SF:73%, IF:80%, DA:60%, and SA:87%). The most popular mistakes were: going/landing in the water ("he went in the water when he knew he couldn't swim" or "yeah, by flying into the water"); not listening to the goose's advice ("yes, he should have stayed there and listened to what his wife said"), and trying to fly ("he wanted to fly with them (but) he knew he couldn't make such a journey"). Some children perceived the relationship to be mismatched and therefore the cause of the owl's troubles ("yeah, mating the goose") and several responses made generalizations about owls ("like coming along, owls aren't supposed to go"). There were also a few inappropriate responses given, such as: "didn't understand why he threw the fish back," "like falling off in the beginning" and "he didn't go swimming with geese."

- Owl's Motivation. The rationale, or "Why Owl did all those things" was the driving force behind the story. The motives given by children for the hero's actions fell into two categories. The first encompassed relationship/affiliation

and included such responses as: "To try and catch a girl," "For the mother?" "So he could be with the family," and "He didn't want to leave the goose, he cared for her." The second, called achievement, included wanting to be competent and to be like the competent geese ("Cause he wanted to show the geese he could do things," "to try to be better," and "So he could be like the geese"). For many children, the owl's being as good as or like the others made him a competent hero, while his not making the grade was his "tragic flaw." Both competence and affiliation are primary concerns for children this age. Most children in the two film conditions (SF:71%, IF:69%) and those in the Storyteller group (88%) saw relationship/affiliation as the owl's primary motivation ("He wanted to be with the goose," "Maybe he liked her . . . he just wanted to be alone with her" and "He felt they ought to be together"). In contrast, half the Descriptive Aural children (50%) felt that achievement/competence was the moving force behind the owl's (mistaken) actions ("He thought he could be like them" or "He wanted to show them he wasn't any different"). There were also a few inappropriate responses, such as: "He felt happy for her--didn't want her to get lost" or "He was just caring for himself."

▫ The Point. In terms of the "level" assigned to their answers, Silent Film and Storyteller children most often kept their responses related directly to the story's content (Level 1). More than half the Silent Film conditions responses (53%) and nearly half of those from the Storyteller group (46%) drew their points from literal events with the story ("Owl did anything he could for the goose--he liked the goose," "That owls can't fly over the ocean"). In comparison, Intact Film children and those in the Descriptive Aural condition attempted to generalize more and apply the story's lesson to real-life situations (Level 2). More than half the responses from the Intact Film group (60%) ("You're good the way you are. You don't have to try to be like anyone else") and those from

Descriptive Aural children (71%) ("You should go at your own speed and not at someone else's") reflected such general applications of the story's point.

Children discussed the point of the story in terms of three kinds of value: identity ("To act yourself--not to act like someone else"), achievement/competence ("You shouldn't do something you know you can't"), and love ("That they really loved each other--they'd go through anything"), or the one inappropriate response ("That the goose is trying to get away from the owl?").

For the most part, children were able to generate fairly "big" concepts for a simple story. Isn't that what we customarily expect from a folktale or legend?

h. Title of the Story. As the interview wound down towards its close, we invited children's opinions about various aspects of the story. One of these was:

> "What do you think would be a good title* for this story?"

We scored children's responses in three ways. To begin with, we looked at how children chose to identify the relationship between the two main characters ("The Owl and the Goose" or "The Goose and the Owl"); whether they included all the characters, i.e., thought of the story in terms of family ("The Baby Geese, the Goose, and the Owl): and/or which single character it was when children mentioned only one ("The Sad Goose" or "The Lonely Owl"). Next, we designated "levels" of response. For instance, Level 1 responses merely named the characters: "The Goose, the Owl, and the Goslings." Level 2 responses described a character's abilities, traits, feelings,

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*As was mentioned earlier, we had removed the title from each version of the story.

or actions ("The Owl Who Couldn't Swim" or "The Goose and the Owl Were Friends"). Responses designated Level 3 were those that went beyond Level 2, and ones we felt had attempted to express a more philosophical meaning or moral ("You Never Have to Try to Be Better than Anyone Else"). Finally, we looked at the kinds of inferences children included in their titles, such as a character's traits ("The Owl That Wouldn't Give Up"), etc. and scored those inferences accordingly.

Title of Story Findings (See Table 12)

Relationship Focus. In general, the goose received "top billing" over the owl (57% to 43% of total sample) when children mentioned them together in the same title. This occurred in nearly half the responses (47%) in the Silent Film condition ("The Goose and Owl Get Married"), one-third of the Storyteller children's responses (33%) ("Goose and Owl Don't Go Together") and also in more than a quarter of the responses in the Descriptive Aural group (27%) ("The Goose and the Owl").

The Owl's name was mentioned first in slightly more than a quarter of the responses (27%) in both audio conditions ("The Owl and the Goose Were Friends" (DA) and "An Owl and a Goose That Married" (SA)). It is difficult to place much significance on which character is mentioned first. However, it is worth noting that, by including two (or more) characters in their titles, most children rightly acknowledged that the story was about a relationship.

A small portion of children (15%) titled the story in terms of the family, by including all the characters ("The Owl and the Geese"). By a slight margin, children in the Descriptive Aural condition titled the story in terms of family more often than did children in the other conditions. Twenty percent of the responses (20%) from Descriptive Aural condition included all the characters in their titles ("The Owl, the Mother, and the Ducklings"). While all the children included the goose in their titles as either part of the relationship

Table 12

Title of the Story

	Film		Audio	
	Silent %	Intact %	Descr. %	Story. %
Relationship Focus				
Owl/Goose	20	13	27	27
Goose/Owl	47	20	27	33
Whole Family	13	27	20	--
The Goose	--	13	6	27
The Owl	--	20	13	27
Unscorable	20	6	6	13
Levels	(N = 15)	(N = 15)	(N = 15)	(N = 15)
1: Naming	73	53	67	47
2: Attributes	6	40	27	33
3: Meaning	13	6	--	13
Bases for Inference	(N = 2)	(N = 9)	(N = 4)	(N = 6)
Inference Categories:[a]				
Relationship	50	22	25	29
Abilities	--	44	--	14
Traits	--	--	50	29
Feelings	--	11	25	14
Events	50	11	--	14

[a]Percentages are based upon number of inferences.

or part of the family, a small percentage (15%) mentioned only the owl; this suggests they perceived the owl to be the story's protagonist.

Levels. Across conditions, most children with titles remained at Level 1, just naming the characters. Children in the Silent Film condition produced the most Level 1 responses (73%), using either "The Goose and the Owl," or "The Goose, the Owl, and the Goslings," or some minor variation. More than half the titles in the Intact Film (53%) and Descriptive Aural (69%) conditions also were scored Level 1. Storyteller children had the fewest Level 1 titles. Children in the Intact Film condition most frequently described characters' abilities, traits, feelings, and acitons (Level 2) in their titles (40%) ("Love for the Goose"). A third of the titles in the Storyteller condition (33%) contained those attributes ("The Owl That Tried to Fly South") and more than a quarter of the titles by children in the Descriptive Aural condition (27%) also attained Level 2 ("The Friendly Owl"). Only one title in the Silent Film made mention of any Level 2-type attributes and it was one about the characters' relationship ("The Owl and the Goose Get Married"). It is interesting to note that this title by a child in the Silent Film condition concluded what was "given" in the Storyteller version. As for Level 3 responses, there were very few children's titles (8%) that reached for meaning beyond Level 2 ("Try to Help Someone Who Needs Help" (SF) or "The Differences of Life" (SA)).

Inference Bases. Inferences based upon the owl and goose's relationship were the most prevalent across conditions (27%), ("The Owl and the Goose Were Friends"). Since the original title of the story, The Owl Who Married a Goose, had been removed from all versions, it was interesting to see that children readily inferred the salience of that relationship from their respective versions.

Beyond their naming of the characters, the Silent Film

children's titles were split between describing the relationship as an event: "The Goose and Owl Get Married" and attempts at discerning a point for the story ("Don't Go in the Water"). Children in the Intact Film condition drew most of their inferences about the characters' abilities (44%) ("The Owl Who Didn't Know How to Swim") and the relationship (22%) ("The Goose Family"). Descriptive Aural children drew inferences about the characters' traits (50%) ("Brave Owl"), relationship (25%) ("The Owl and Goose Were Friends") and feelings (25%) ("The Sad Goose"). Storyteller children's inferences were more widely distributed among the various categories than those of children in the de/pictive/scriptive conditions, and clustered most often in the categories of relationship (29%) ("Goose and Owl Don't Go Together") and traits (29%) ("Foolish Owl").

Overall, a simple title which included both the owl and the goose satisfied children in the Silent Film condition. Children in the other three conditions and the Intact Film in particular, constructed titles using a greater variety of character attributes. Storyteller children were the ones most likely to conceive of the owl as the "hero" of the story, a character interesting enough to build a title around.

i. Identification with Character. In order to find out which character children identified with most strongly, we asked them:

> "If you could be one of the characters in this story, who would you want to be?" and "Why?"

First, responses were scored for the character(s) chosen, the owl, the goose, or the goslings. Then we looked at the breakdown of choices by children's gender to see if same-sex choices prevailed.

Next, we looked at children's rationale for their choice by examining the attributes they mentioned when asked the reason for choosing as they did. Attributes were usually given a positive or negative value by children, therefore we scored each attribute for the value it was assigned.

Attributes children mentioned fell into the following inference categories:

- Feelings: ("The goslings, because they were the happy ones
- Traits: ("She was a nice person, she saved the owl and helped him.") ("Owl, because he was the funniest.")
- Abilities: ("I like it how he sings and did those calisthenics.")
- Appearance/features: ("One of the baby geeses. For one thing, I like the way their fur feels . . . nice and fluffy.") ("They're cute.")
- Relationship: ("Cause of the things he did for the geese, he looked over them.")
- Events: ("I would've liked going into the water and making all those faces and drowning.")

Finally, we scored children's responses for whether they acknowledged the character's role in the story. ("He was the one in the story, mainly. He was the main character"), whether their choice was simply a nonrationalized personal preference ("I like gooses better" or "I'd just want to be the owl"), and/or if the choice was based upon something outside the story ("When I used to go to the farm I liked gooses").

Character Preference Findings (See Table 13)

The goose captured 45% of the children's preferences from all conditions, while the owl and goslings each received 27% of the remaining children's preference. Among film children, more than half (60%) of those in the Silent Film condition chose the goose as the character they identified with, while slightly less than half (47%) of Intact Film Children chose the owl.

As many Descriptive Audio children preferred to be goslings (40%) as those who chose to identify with the goose (40%). Slightly more than half (53%) of the Storyteller children also identified with the goose.

Table 13

Identification with Character

	Film						Audio						Total Sample (N = 60)		
	Silent (N = 15) %			Intact (N = 15) %			Descr. (N = 15) %			Descr. (N = 15) %					
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Character:															
Owl	13	7	20	33	13	47	20	--	20	20	--	20	22	5	27
Goose	20	40	60	7	20	27	7	33	40	13	40	53	12	33	45
Goslings	20	--	20	7	20	27	33	7	40	13	7	20	13	8	27

Key: M - Male
F - Female
T - Total

Predictably, on the basis of a chi square test, a significant sex difference was found in character identification ($\chi^2(2) = 14.64$, $p < .001$), with children primarily identifying with same-sex characters. For girls there was a more clear-cut bias. Boys were divided between the owl and goslings.

Rationale for choice. More than half (59%) of the Silent Film children and more than a third of the children in each of the other conditions (Intact Film 39%, Descriptive Aural 38%, Storyteller 36%) used a character's abilities ("The mother because she helped the owl a lot. She could do a lot of things" or "Owl because he tried stuff, he was really brave to try all those things he didn't know how to do") as the basis for the preference for that particular character.

Although almost a quarter (21%) of the Descriptive Aural children drew relationship inferences for the reason they preferred a character ("She was always trying to help Owl"), children in the three other conditions rarely did. All other attributes were widely distributed across all conditions.

The way in which children often approached this task of identifying with a character in the story was to weed out the negative choices and hang on to what remained ("Maybe one of the goslings--like they hardly had anything to do" or "Wouldn't want to be Owl cause he's dead, and Goose really felt bad"); therefore, a preference for the goslings was more often than not, a process of elimination while identification with the owl or goose was usually arrived at by positive identification with one of the character's abilities.

Opinion Poll

Just as early in the interview we had asked children to comment about the story, we now reached the end of the interview and our directly probed questions had been answered; once again, we gave children the opportunity to respond in a more relaxed way to their recent experience.

The questions we posed were:

1. "Did you like the story/or not?"
2. "Rate it on a scale of 1-10."
3. "Would you recommend it to other kids your age/ or not?"
4. "Would it be better with English/words?" (For the film conditions.)
5. "Would it make a good film or TV story?" (For the audio conditions.)

Because there were no outright "no"s, the first question ("Did you like the story/or not?") was scored for "yes" or "other" responses ("All right," "Don't really mind stories; don't love them"). Often, children volunteered a basis for their response, and we noted that those bases usually fell into such categories as, "sad," "happy," and/or "funny" as well as a variety of "other" bases ("It made me feel good," "It was fun to watch"). We scored the bases for those categories. Children's rating of the story on a scale of 1-10 (one being not good and ten being excellent) was tallied, and an average score was calculated for each group. We also simply tallied whether or not they would recommend the story to other kids their age.

Film children's opinion about whether the story would have been better with English/words (to cover both Intact and Silent Film conditions) were scored for "yes" and "no" responses, as were audio children's speculation about whether or not this story would make a good film or TV story. Finally, we monitored children's responses to questions for information they may have volunteered about the following: recognition of a duality of meaning ("Some parts were sad, some parts were funny"); a generalized statement about what they liked or disliked about the material ("Yes, because it was exciting. You didn't know what was going to happen next"); mention of story-specific events ("Yeah, it was funny--the conversations I

heard with the hearts and I heard when he was about to sink"); and comments about the story's production or how it was made ("It was good, the way they made it, it was funny").

Opinion Poll Findings (See Table 14)

▫ Like story/or not? An overwhelming majority of children replied "yes" to this question. In the Silent Film condition the response was nearly unanimous (93%). This corresponds to our findings of 93% "no" responses when Silent Film children were asked: "Was there any part you didn't like?" in the Initial Response. The one response in this condition that held back from saying "yes" said; "all right." Children in the Intact Film condition gave 86% "yes" replies, children in the Storyteller group 87%, and Descriptive Aural children 73%. Examples of "other responses and their bases are: "It was weird--you can't really understand it like when they showed the pictures, you could--but sometimes when they talked you couldn't understand it" (IF), "Okay, just didn't like some of the things but liked others" (DA), and "A little bit, it's sorta happy, sorta sad" (SA).

▫ Volunteered bases. Children in the Storyteller condition were most taken with the story's tragic aspects. Nearly a third of the bases given from this group (32%) included mention of sadness ("Yeah, regular stories have a happy ending and I like a sad ending"). In the Storyteller group, almost a quarter of the responses (21%) also included the happy aspect of the story ("Yes, most of it was happy--it did have a little sad"). Sixteen percent (16%) of these children added "funny" to the equation ("Yeah, some parts were sad, some parts were funny" or "Yeah, a good story--sad and happy and funny"). These Storyteller children apprehended the story's duality of meaning. In one Storyteller child's initial response the comment was made: "At first it was funny, at the end sad." Most of the other volunteered bases from that group

Table 14
Opinion Poll

	Film		Audio	
	Silent %	Intact %	Descr. %	Story. %
Like Story/or Not?				
Yes	93	86	73	87
Other	6	13	27	7
Unscorable	--	--	--	--
Voluntered Basis				
Sad	--	7	--	32
Happy	--	7	25	21
Funny	33	14	8	16
Other	67	71	67	26
Unscorable	--	--	--	5
Recognize duality	--	8	--	33
Story-specific events	40	15	14[a]	13
How it was made	13	--	--	--
Generalization	33	46	57	27
Unscorable	13	31	29	27
Rating	$\bar{X}$ (66)	$\bar{X}$ (70)	$\bar{X}$ (51)	$\bar{X}$ (70)
1 - Not good	--	--	--	--
2	--	--	--	--
3	--	--	7	6
4	--	--	--	--
5	33	13	43	13
6	13	--	7	6
7	20	47	14	26
8	27	20	14	13
9	--	13	7	13
10 - Excellent	6	6	7	20
Recommend/or Not?				
Yes	53	73	80	87
No	13	27	13	13
Other	33	--	7	--
	Better with English/Words?		Good Film or TV Story?	
Yes	73	66	86	80
No	27	33	7	20
Maybe/Maybe Not	--	--	6	--

were either more story-specific ("Yes, it showed that Owl had a lot of love, he was willing to sacrifice"), or more generalized ("Yes, I like owls and I like stories"). There was one child in the group (unscorable) who had not been asked the question.

The story's humor, particularly related to the owl, held the most appeal for children in the Silent Film condition. A third (33%) of their volunteered bases referred to humorous aspects of the story ("Yes! I just liked how the owl acted. [laughs] He was kinda funny"). In this condition, although children used neither "happy" nor "sad" in their bases, they gave 67% "other" kinds of responses which included: How it was made ("Yes, because it was fun to watch, cause it was made out of . . . I think clay it looks like, or sand and cause it showed how the animals feel about each other"), story-specific events ("Yeah, [I liked] a lot of things. I liked when she laid the eggs, when she had children and when they were swimming together and when she saved the owl") and generalizations ("Yes because it was interesting. I didn't understand the beginning. I'm beginning to understand the end").

Children in the Intact Film condition volunteered the largest variety of "other" bases (71%). These ranged from some confusion about the language (how it was made) ("Yeah, it was all right. Some parts I really didn't understand what they were saying"); to generalizations ("Yeah, well I never saw those kinds of movies before" or "Yeah, the things that the owl did--what happened to him"); to mention of story-specific events ("Yes, well, it was funny and it showed you things [like] how to fish if you're a bird" and "Yeah, it was good when they got the little geese and flew off and the owl wanted to be with them so he could still be friends with them [but] he knew he couldn't be friends with the geese because they had to go to different places"); to a recognition of the duality of meaning ("Yes, a little, like, it looked like fun, sometimes it was happy and then it was sad

and then it was happy and then it was sad").

Children in the Descriptive Aural condition didn't characterize the story itself as being either "sad" or "happy" but there was one response that said, "Yeah, it was sort of funny." A quarter of the responses (25%) expressed positive feelings ("Yeah, it made me happy" or "Yes, because it made me feel good"). The majority of "other" responses were generalizations ("Yes, it was a nice story. I liked the characters in it and how they acted" or "Yes, well it showed about courage and not to quit"). However, in this condition, even the few story-specific bases were not mentioned with very much depth or detail ("Yes, it was talking about a goose and an owl and some little goslings just flying and walking and going into the water" or "Yeah, it was interesting, when the babies hatched and everything"). The one inappropriate response mentioning story-specific events clearly showed a lack of understanding of the events related ("Yes, it got to you, like what he did for the geese and what he did for the fish so it wouldn't die"). Taken together, bases volunteered by children in the Descriptive Aural condition show less engagement with the story than did bases given by the children in the other three conditions.

- Rating. The mean rating scores for each condition were: Silent Film 66%, Intact Film 70%, Descriptive Aural 51%, and Storyteller 70%. Here we were able to see a medium difference in Descriptive Aural children's lesser rating of the story. It is understandable, given the nature of the Descriptive Aural version of the story. Its long, wordy, descriptive passages were probably not very satisfying for children, and it offered them fewer engaging features to console themselves with.

- Recommend story/or not? Although the majority of children responded "yes" to this question, the Silent Film

audience was the most reluctant to offer their recommendation (SF 53%, IF 73%, DA 80%, and SA 87%). Some of the reasons given for recommending the story included: How it was made ("Well, maybe kids like things like that, like kind of funny things--like the way they made it" (SF, rating "8")), or learning a lesson ("Yeah, they could learn by watching this movie. The owl tried something the goose could do but he never got to do. He got to fly like a goose but he couldn't swim" (IF, rating "8")) and "Yes you can learn a good point out of it--be yourself" (DA, rating "7")) Some of the more general statements included: "They'd like the owl" (SF, rating "7"); "Well, for one, it's a good story" (IF, rating "10"); "I think I would, it's like, an exciting story" (DA, rating "10"), and "Yeah, cause it's a good story, it tells a lot" (SA, rating "7").

When we examined children's reasons for not wanting to recommend the Intact Film even though they, themselves, enjoyed it, it became evident that the foreign language was criticized as an impediment to enjoying the film ("No, because my age like--they wouldn't understand it because how like the words were" (rating "7")) and "No, I don't think they'd like it. They might think it was all right, cause it was kind of exciting, but the words were--you couldn't understand the words and you'd have to think about it a lot" (rating "5")). Other "no" responses in the other conditions included an age criteria ("No, because it's a kind of film for younger kids--second or third grade" (SF, rating "7"), and "No, I think it's more for little kids. Older kids would think it's babyish" (DA, rating "5")); the lack of sound for Silent Film children ("I don't know if other kids would like it, it doesn't have any voices" (rating "6") and "depends if they'd like it. Some people wouldn't. They'd think it was boring cause it had no sound" (rating "6"). A variety of other reasons for recommending/or not are stated below:

"I don't know--doesn't have like real pictures. It has like cartoon drawings" (SF, rating "6").

"If they like a goose and owl story they might" (SF, rating "5").

"No. Cause maybe they like sensible stories" (IF, rating "7").

"Yeah, (because it was) funny" (IF, rating "8").

"Yeah, it depends on the kid, a kid who'd like to read" (DA, rating "6").

"No. It's pretty strange--don't like strange stories that I can't get into" (DA, rating "5½").

"No, cause some of the kids in my class read adult books, others read kindergarten stuff--they don't read this. They wouldn't take it out of the library unless they were told to read it" (SA, rating "6" or "7").

"Yes, in case they had some problems. It might help them realize some things that would help them" (SA, rating "9").

▫ Would it be better with English words? The majority of children in the film conditions agreed that the film would be better in English (IF) and with words (SF). Seventy-three percent (73%) of the Silent Film children would have preferred to have words to go with their pictures ("With words you could tell what they're saying. It's sometimes better with sound" (rating "8") and "Yeah, cause you'd know what the family would be like. Like when the owl drowned and the goose started crying, you'd know what they meant--I knew, but it would be just a little better" (rating "8")). Conversely, more than a quarter of the Silent Film children (27%) did not really feel the need for words ("It would be good with words, but it's fine without" (rating "7") and "It's better the way it is" (rating "5") and "I don't mind. It was good this way cause you could imagine what they were saying" (rating "6")). Of children in the Intact Film condition, 66% expressed a preference for English words ("I'd rather have English words cause

then I can understand what they're saying and know their feelings because when the owl and the goose were talking they were telling each other their feelings" (rating: "probably a 9") and "Yeah, it's better when they talk English, not weird words like . . ." (rating "7")). However, a third of Intact Film children (33%) did not need English words to enhance their enjoyment of the story ("It was good this way, cause they didn't really talk that much in the story" (rating "10") and "no, [wouldn't rather have English words] the words you didn't know were funny" (rating "8")).

▫ Would this make a good film/TV story? Most audio children felt that this story would be enjoyable in film or television. Eighty-six percent (86%) of children in the Descriptive Aural condition expressed this opinion and generally went on to describe the parts they would like to see depicted ("Yes, when he was whistling and doing all those calisthenics" (rating "7") and "Yeah, it would be good for a film, when the goose was taking fish out of the water and when the owl fell into the water" (rating "6") and "Yes, you could see the characters and how they acted. It could make you feel different" (rating "8")). Eighty percent (80%) of the Storyteller children thought this would be good film or TV material. They also talked about the parts they wished to see depicted ("When they flew off and where she had the ducklings and they sang the song" (rating "8" or "9") and "Yes, when they were happy all the time. All the parts that were happy" (rating "9")). Some more general reasons children gave were: "Would be a good film --it would be colorful [although] I like just hearing it, it would be more effective with pictures" (rating "8") and "Film, cause other kids in school could watch--they wouldn't watch [this] on TV" (rating "6" or "7") and "if you could see it you could understand it a little bit better and think more about it" (rating "7")). Twenty percent (20%) of the Storyteller group had reservations about the story being translated to film or TV ("I think I liked to hear it" (rating "10") and "No, it's

the kind of story you read out of a book" (rating "5") and simply "No" (rating "10")). It seems this last group preferred the presentation they received, with the possible exception of the child who may have preferred a storybook to the audio version.

D. Discussion and Conclusions

The following discussion of findings will focus primarily upon the comparison between a pictorial and a verbal presentation of the same story. We will also touch upon comparisons between the two film and two audio presentations along the way. However, since the major independent variable was use of either pictorial or verbal materials, that contrast shall remain our foremost investigative concern in discussing the findings.

When we examined children's performance in the gesturing task, we found that appropriate character affect was conveyed equally well by children in the Intact Film and Descriptive Aural groups. The difference in the two groups' performance appears to be that film children had less latitude in expressing variety in their behaviors. It would seem that as a direct consequence of having experienced a visual presentation, they were limited to modeling behaviors they saw on film. Children who heard the Descriptive Aural story had more leeway to express more varied behaviors, in particular, in their greater freedom to move about in Question One (how the owl and goose reacted when the eggs began to hatch). However, these children used the "logically appropriate" means in Questions Two and Three (e.g., feet, when owl's foot got wet, and arms/hands, when the owl was flying and trying to keep up) with greater frequency than the film audience. Children who saw the film either were able to pick up subtle cues from it, or else they were more comfortable in this task, because the pacing of their gestures for each point in the story exhibited more variety.

In contrast, the film left more room for children's verbal interpretation. For example, while children who had been presented the Descriptive Aural version of the story used more verbs to describe the characters' qualitative behavior, Intact Film children used a greater variety of verbs in describing those behaviors. In addition, the film audience employed a

wider range of inference bases when discussing characters' feelings, for example, by drawing upon the relationship as well as by mentioning characters' thoughts and perceptions. In contrast, children responding to the Descriptive Aural version called upon less diverse bases, in particular, relying upon characters' abilities, to substantiate their inferences. This medium difference also appears in questions about the story's conclusion, where the Descriptive Aural audience was still concerned with achievement/competence, rather than the relationship between the owl and the goose. Based upon their responses to monologue questions and questions about the story's ending, children who listened to the Descriptive Aural version generally demonstrated less engagement with the feelings that might exist between the main characters than children presented other versions. For instance, when questioned about the story's ending, these children were less willing to imagine a life for the goose beyond the information provided. This evidence, taken together with their response to the opinion poll, lead us to conclude that children in the Descriptive Aural audience were less involved with the story in general than children who saw the film. We were not surprised by this finding, for it was perhaps inevitable that such a "literal" verbal rendering could not do full justice to the spirit of the nonverbal film story it was attempting to describe.

Several children presented the Intact Film perceived the foreign language as an obstacle to apprehending the story (e.g., witness the opinion poll). Although we acknowledge that use of this unfamiliar language may have been frustrating to them, it by no means hindered these children from demonstrating to us an understanding of the story on a par with children who heard the Storyteller version, and sometimes exceeding the depth of understanding of children who heard the Descriptive Aural version. This was borne out particularly by the film audience's response to the ending (e.g., their valuing of the relationship/affiliation).

While children in all conditions displayed understanding of the characters' relationship, and made more profound observations about the owl than the goose, children who saw the Intact Film were the ones who, when discussing their relationship, differentiated most between the two characters (e.g., by drawing inferences about characters' traits, abilities, features).

In identifying with a character, it was not surprising that children tended to choose the same-sex character. However, boys' choices were divided primarily between the owl and the goslings, probably as a consequence of the owl's behavior in the story. Although he was the story's main protagonist, the owl failed in his attempts to perform as competently as the goose. Since a character's abilities were mentioned most often as a reason for preferring a character, and we know that mastery and competence are important to children at this age, this identification choice presented boys with a dilemma. For that reason children who chose to identify with the owl were in the minority. However, children presented the Intact Film proved more willing than children in the other conditions to identify with the owl in spite of his lack of competence. Perhaps the humorous aspect of the owl's personality served a sympathetic compensatory function. In any case, we know from the opinion poll that children in both film groups enjoyed the story because of its comedic features and it is likely that children felt that the owl was primarily responsible for these effects.

Children who saw the film without sound compared favorably with the Intact Film audience in their understanding of the story. Silent Film viewers demonstrated comprehension by employing a variety of appropriate inferences and bases to substantiate different inference questions and by making effective use of verbal descriptors (e.g., adjectives, adverbs, spatial, and directional words) when describing characters' qualitative behavior. It was children in this group who most often volunteered gestures when describing the characters'

behaviors. In their invented monologues, children who saw the Silent Film inferred motives for the characters, thereby making the most personal, introspective comments for the owl.

Without ever hearing the characters' voices, these children had a good grasp of the owl and goose's relationship, which they often extended to include the goslings. However, children in the Silent Film audience experienced the most confusion in their responses to both transition questions by estimating the least amount of time (e.g., seconds or minutes) for the depicted events to take place. They shared this confusion with Intact Film viewers, who were also uncertain about which time to base their estimates upon, the film or the story.

Finally, only children who saw the Silent Film expressed curiosity about how the film was made and offered comments on its visual form. In general, very little was said by children about the form or style of any of the presentations. Perhaps this was due to the "academic" content-oriented school setting, where children are less accustomed to being asked to speculate on such matters.

In dealing with one formal aspect of the film, there was evidence that the distraction of the Eskimo language forced children who saw the Intact Film to work harder than children who heard the audio presentations. For example, in their retellings, the film audience failed to acknowledge that either the characters (character perceptions), or they themselves (sound effects) heard anything during the story. If their concern with the referential meaning of language could be resolved, these children might be able to take advantage of the purely expressive function of the Eskimo dialect. Because children who saw the Silent Film had no distractor, nor any audio cues, it may have permitted their greater attention to the story's visual content. This strength of focus that the Silent Film audience may have brought to bear upon the story may have allowed for more invention in their inferences. Perhaps that is the reason they were able to extend their vision of the

characters' relationship to perceive it in terms of a family (in fact, the way it was portrayed by the Storyteller).

Especially because worded stories are encountered by children far more often than stories without words, we should not underestimate the importance of the finding that children in both film conditions clearly understood the consequences of the owl's actions. Having his demise depicted was so compelling an image that it left no room for doubt about its meaning. This is where the worded versions of the story were more ambiguous than the film and required children who heard them to do more interpretive work.

Children who listened to the Storyteller version were generally confined by the information given them. Apparently they remembered much of the information they received and consistently reiterated that information both when retelling the story (e.g., "inferences" scored as other content in the Storyteller retellings drew heavily on information provided in that version) and when answering the various inference questions. When inventing a monologue for the owl (when his foot gets wet) for example, children exposed to the Storyteller version made the more obvious comments about the environment (e.g., "it's too cold" or "too deep" or "wet"). Nevertheless, children who heard the Storyteller version also were able to recognize the duality of meaning or comic/tragic aspect of the story. This demonstration of thematic understanding by the Storyteller listeners should prove the value for children of an explicit verbal rendition of a story which also includes rich, expressive language.

In general, then, children presented the film measured up adequately in performing the required tasks and occasionally exceeded the performance of children who had heard one of the aural versions of the story. In reflecting upon this finding it should be noted that, unlike listeners, film viewers had to transpose the observed visual images to words in order to verbally communicate the meaning the story held for them. The

capability demonstrated by these children lends support to our premise that visual story presentations can have value as a learning tool for children and may offer them a less restrictive modality in which to receive story information, one that may also leave them a greater margin for invention than stories presented exclusively with words.

Finally, let us consider these findings in the context of previous comparisons between media, both our own studies and those of others.

The noted lack of significant medium differences between children's responses to the film and audio story versions, in particular the Descriptive Aural, is consistent with other studies (e.g., Baggett, 1979) where researchers have gone to great lengths to "equalize" the content being made available in each version. Children's retellings of such comparable stories have more in common with each other than they do differences. In the present study, this was particularly true when children's inclusion of the story's main events was compared across condition. (And the more abstract the retelling task becomes, for example, offering a summary or synopsis, the more likely it is that such similarities will be observed between media.)

However, this tendency for children to produce similar accounts of the Owl Who Married a Goose also seems a little at odds with several of our own studies. Specifically, in earlier studies when we compared story versions that differed in the extent to which they were illustrated, we found greater recall of actions among children after presentation of the television story (more and dynamic illustration) than after that of the picture-book story (less and static illustration) (Meringoff, 1980). In a subsequent media comparison of the same story, the television audience exceeded that of a strictly audio delivery in recalling the basic facts of the story and showed a nonsignificant tendency to remember more actions (Char with Meringoff, 1981).

What happened here then? Why wasn't this difference accentuated even more when a strictly moving visual rendering (greater salience of actions) was compared with a strictly audio treatment (less salience of actions)? At least two factors seem relevant in explaining the similarity observed in children's recall of this story's main events: one pertains to the story materials, the other to the child audience.

In contrast to our previous studies, where existing story materials were used with only minor modifications, we constructed the Descriptive Aural version ourselves. In so doing, we attempted to provide as close a verbal description as possible of the actions depicted in the film. Compared to authentic recordings of story tellings (such as our own Storyteller version), the Descriptive Aural overspecified the narrative events. "Biasing" the aural story in this way apparently facilitates children's recall of character actions.

In addition, whereas the television stories in the previous studies used a narrator to present the text--so that the verbalized and pictured actions tended to reinforce each other, the Owl Who Married a Goose was a nonverbal film. As a consequence, whereas children retelling the television story could draw upon the language provided, this was not possible for film viewers in the present study. Having to create a worded version of an unworded visual story probably places more of a burden on children than recounting one that already is narrated.

With regard to the audience, the sample of ten and eleven-year-olds recruited for the present study included older children than those who participated in the earlier studies. In their various responses to this story, these older children exhibited considerable mastery of the story's deceptively simple plot as well as its general theme. The younger children in the previous studies may have had a less firm grasp of their story, a fairly elaborate folktale. Conceivably, there is some optimal range of a story's difficulty for its audience within

which the likelihood of identifying medium differences in learning is greatest; when either too little or "too much" of a story is comprehended, then no medium differences in what children know about the story will easily emerge. For example, in a replication of the picture book-television comparison (Meringoff, 1980) where preschoolers were also interviewed, the spontaneous retellings offered by these three to five-year-olds were too spare to be usefully scored (Kelly & Meringoff, 1979). Only with the help of picture cues and more direct questioning were these children's story responses even amenable to comparison.

In terms of further interpretation and inference-making about a story, our previous studies and similar efforts by others have consistently found that less highly illustrated (picture book) and unillustrated (radio) stories provoke children to call upon more outside-story knowledge and experience upon which to base inferences than do more highly illustrated ones (namely television) (Beagles-Roos & Gat, submitted for publication; Kelly & Meringoff, 1979; Meringoff, 1980; Vibbert & Meringoff, 1981). In the present study, children in both audio conditions produced somewhat less varied responses to inference questions, and also volunteered more inferences in their retellings, than did film viewers. Although the relatively greater homogeneity in these listeners' inferences may seem incompatible with the earlier finding--of listeners going farther afield in their inference-making than television viewers--it is important to bear in mind that we are talking about the outcomes of two different tasks. In our earlier studies, we were primarily interested in the sources for children's inferences, whereas the emphasis in the present study was on the inferences themselves.

Moreover, the Storyteller version, unlike the other audio or picture book texts, made verbally explicit many things (e.g., characters' feelings, elapsed time between scenes) which had to be inferred from the other versions. And as we have already

mentioned, the children presented this version tended to be well informed about the story and their interpretations drew heavily upon the provided content.

That the film audience showed somewhat greater sensitivity to characters' inner states (e.g., their invented monologues, their perceived distinctions between the owl and goose) and to the relationship between the characters (their discussion of the story's ending) than did the Descriptive Aural audience is consistent with the hypothesis (Vibbert & Meringoff, 1981) that characters' feelings are more readily inferred by children from film or television depictions than from verbal description of the pictured facial expression or physical gestures. In addition, the fact that the Descriptive Aural audience generated the most stereotyped inferences may be indicative of these children's lesser engagement with this empirically constructed version of the story. We know from our own previous research (Char with Meringoff, 1981) how difficult it can be for children to attend to and apprehend a strictly aural story recording. In this case, listening to the story in its Descriptive Aural version did not so much hamper children's grasp of the story line as it did their involvement and enjoyment of it.

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APPENDIX A

The Film	Sound Effects	Descriptive Aural Text	Storyteller Text
The titles break up and swirl around and then an opening clears where an owl is seen against a white center surrounded by textured darkness. He blinks and the background swirls again. This time a goose form is seen in a white center surrounded by the same textured darkness. As the goose spreads her wings, the darkness is swept away and she waddles into a white clearing in the center of the frame.	Owl singing Goose singing	An owl emerged from the dark bushes singing to himself and then a goose appeared	Owl was lonely until one spring, he fell in love with a goose. She had small eyes, white fluffy feathers, and a long graceful neck. Owl and Goose were married.
The goose waddles over to the dark material at the left and pulls some of it out with her beak. She spreads the material out at her feet at the center of the frame.		The goose began to build a nest	One day, Goose began to gather leaves from a berry bush, down from her back, and she laid it all in a circle and made a nest.
Dark mass on the left becomes the owl, who then walks across the frame to the right of the nest material and stands watching as the goose continues her nest-building activity. While she is spreading the nest material, the owl, with a little gesture of his foot, spreads some of it too.		And the owl watched her. He swept some of the material toward the nest with his foot.	Feathers from owl's dappled wings. Owl padded the feathers down to make them softer.

The Film	Sound Effects	Descriptive Aural Text	Storyteller Text
The goose now waddles to the center of the nest and sits down in it. The owl and goose look at each other, then they briefly touch beaks.		When the goose was finished, she sat down on the nest while	And Goose sat down on the nest. Owl watched. His eyes widened. His heart beat wildly.
The owl spreads his wing feathers, quickly hops partially out of the frame to the right, and then immediately bounces back into the frame, wings extended. He does a cartwheel all the way across the frame in front of the goose, and right out of the frame on the left-hand side. The goose extends her neck toward the left frame line where the owl disappeared and in a moment he is back in the frame doing a cartwheel across the frame to the right, in close-up.		Owl sang and danced and turned cartwheels all around her.	Owl jumped up and down. His feet danced out a rhythm on the earth.
The goose sits quietly and blinks. The owl's head appears three times at the very edge of the frame: first, on the bottom of the frame to the right, where he blinks. Then, upside-down at the top of the frame, and finally, his head pops in at the upper right-hand side of the frame, where he rolls his eyes and spins his head all the way around. Now the whole owl appears.		The goose sat with her beak tucked into her back feathers quietly watching him.	Goose nestled her long neck against her wings and rested.

The Film	Sound Effects	Descriptive Aural Text	Storyteller Text
He leans toward the goose and speaks. As he speaks, two hearts emerge from his beak.	Owl speaks ♡♡'s	Then the owl came over to her, leaned close, and as he spoke softly to her it was as if hearts arose from his mouth.	When Goose and Owl spoke, it was as if their words were ♡'s. He sang, "I am an owl. Whoo-whoo/ My eyes are round/ My belly is fat/ My claws are sharp/ I am an owl. Whoo-whoo/ My wife is a goose/ Her neck is long; Her wings are strong/ When she walks, her foot-prints are like stars."
The goose answers him, and a heart arises from her beak, too. Finally it dissolves, like the others. Again the owl leans toward the goose, speaking hearts, and suddenly his eyes show surprise.	Goose speaks ♡'s Owl speaks again	The goose answered him gently and it was as if a heart arose from her, too, as she spoke	Then the goose looked at the owl and sang, "How happy I am to see your heart-shaped vace, to hear your hooting voice/ To see your joyful dance."
The goose quickly stands up and moves back behind the next. They peer into the nest and it full of eggs! The owl and goose watch as the eggs wiggle around.	Cracking sounds	Just then, as the owl was about to answer the goose, something he heard interrupted him. The goose heard it too and she quickly got up off the nest. When they peered into the nest, it was full of eggs.	Goose stood up. Owl saw five eggs in the nest. The eggs jiggled and shook.
There is a close-up of the eggs wiggling as they begin to hatch, one by one. First one gosling and then another, they emerge from their eggs, spread out their wings, and	More cracking Cracking and peeping	The eggs were jiggling and shook. As the eggs cracked open, little goslings came pecking out.	One by one, they opened, tiny grey goslings pushed their way out. Goose plucked their grey down and they began to squeak squawk. All this owl saw.

The Film	Sound Effects	Descriptive Aural Text	Storyteller Text
strut about, as the owl on the left and the goose on the right gaze at them in fascination! The little ones begin to walk to the left and the owl and the goose follow them.	Peeping and squawking	When the goslings were completely hatched they spread their wings out. Strutting and squawking they began to walk, all in a line. The owl and goose followed.	
The goose passes in front of the owl so that she is directly behind her goslings. She follows them until they dip down into the water, a slightly rippled line, and she too, dips into the water with a gentle splash, and follows her little ones, swimming to the left and out of the frame, a gosling directly behind her.	Water sound (splash) Fade down peep and squawk	Then the goose moved into place right behind the goslings who were already dipping into the water. She splashed right into the water and swam after her little ones,	Owl's wife led the babies to the lake, one, two, three, four, five. They swam behind their mother. Owl followed.
The owl is seen in the frame's center. He is all alone. He looks to the left after them, then he looks right out at us, staring with downcast eyebrows and blinking eyes. Then, staring and blinking again. Then he turns in the direction of the goose and goslings and begins to walk toward them. He walks and breathes, breathes and walks,	Fade out peep and squawk Breathing	leaving the owl standing all alone. The owl looked after them and then he looked straight ahead and blinked. His eyes dropped down. He blinked again and walked toward the water, breathing heavily. He walked and breathed and walked some more.	So Owl watched Goose lead the babies to the middle of the lake.

The Film	Sound Effects	Descriptive Aural Text	Storyteller Text
until he stumbles, accidentally into the water. One foot gets wet, and he quickly backs out with the other foot. This movement is similar to one's throwing out one's arms when one loses one's balance, in order to regain it. The owl looks down at the water and just at that moment a fish jumps out and then arcs back into the water. The owl looks down at the water again and dips a foot in, then he looks up and with a cringing expression removes his foot. He takes a little step to the right, away from the water, blinks, shrugs his shoulders and talks to himself. He looks left toward the others and then looks right. The owl is talking and walking directly toward us. He gets larger and larger as he approaches and we can see, in increasing detail, the pattern of his breast feathers. Soon all we can see are the feathers as he walks right out from the center of the frame.	Water sound (splash) Water sound (gentle) Owl speaks Breathing	Suddenly he stumbled, lost his balance and got one foot wet. He quickly backed away from the water with the other foot. Standing and gazing into the water, the owl saw a fish jump up and fall back again with a splash. The owl again tried dipping his foot into the water, but he looked up, rolled his eyes, and cringing, removed his foot. He took a small step away from the water, blinking, shrugging his shoulders, and talking to himself.	But when he put one foot in the water, it was cold. He put the other foot in the water, it was wet. A fish jumped in the air and dove back into the water. Owl thought," It's too deep."

The Film	Sound Effects	Descriptive Aural Text	Storyteller Text
Now we see the owl's back as he walks again into the frame at the right center. We also see a curved line delineating the pond. The owl continues to walk away from us, following the line of the pond and breathing heavily. When he reaches the crest of the curve the goslings swim into the frame from the left towards the owl and we can see the goose swimming with them. He continues to pace up and back along the edge of the pond, breathing heavily, breathing and pacing, and the entire frame is spun upside-down and then it is right-side-up and the curve of the pond has disappeared. The curve which delineated the pond is gone. The goose and her goslings are now in the foreground and the owl is seen, very small, pacing in the background.	Breathing Peeps and squawks	Then the owl began to walk along the curve of the pond, pacing toward the far end. As the goslings and their mother swam toward him, he heard them peeping and squawking. The owl continued pacing and breathing heavily.	Meanwhile, Owl walked along the shore of the lake. Round and round he circled the lake to watch them until he was weary. And he walked round and round.
The goose is in the center, the goslings to the right, with open beaks. Suddenly a fish darts across the frame from left to right and the goose stretches her neck toward it as it disappears from the	Peeping and squawking	The goslings were squawking wildly now and the goose was watching the water. Suddenly a fish darted quickly by by her and she stretched her neck in its direction, but it was too quick for her. Just then,	They shook their tails, they learned right and left, back and forth, fast and slow. They learned to dive for fish to eat.

The Film	Sound Effects	Descriptive Aural Text	Storyteller Text
frame to the right. Immediately, three fish enter the frame from the right and as they swim left, one hesitates and the goose opens her mouth slightly, but it swims on and disappears out of the frame at the bottom left. Then a fish swims in from the left and this time the goose plucks it out of the water, lifting her head up and extending her neck. The fish is hanging partially out of her beak, and the goslings all have their necks extended to watch what she is doing. She swallows and we see the fish travel down her throat and extended neck, into her stomach. We see an X-ray view of her stomach with the fish swimming around and turning into a skeleton. Now another fish swims in from the right, and the goose plucks it from the water and feeds some of it to each of the goslings.		three more fish swam by. One of them hesitated a moment, and the goose opened her mouth, about to grab it, but again the fish got away. Finally, another fish swam by and this time the goose swiftly plucked it out of the water with her beak. The goslings were watching her movements carefully and they reached their little necks and beaks out toward her. The goose extended her neck upward and swallowed the fish. It traveled down her throat right into her stomach, where it swam around until it was digested. Another fish came along and again she plucked it right out of the water. This time she fed it to the goslings.	
During this time the owl continues to pace back and forth in the background. The goose and her goslings are still watching the water		During all this activity in the water, the owl was still pacing back and forth at the far edge of the pond. The goose and	And he walked round and round.

The Film	Sound Effects	Descriptive Aural Text	Storyteller Text
and when a school of fish swim in from the right, the goslings follow them out of the frame at bottom-center. The goose watches them go.		goslings were watching the water and when a school of fish swam by, the goslings followed it. The goose watched them go.	
Then she dips her head beneath the water and pulls up a fish which she tosses to the owl on the shore. Then the goose swims in the direction of her babies. The fish lands at the owl's feet.	Water sound Dull thud	As soon as they were out of sight, she dipped her head beneath the water, pulled up a fish, and tossed it onto the shore, where it landed at the owl's feet. Then she swam off after her little ones.	Goose brought Owl a fish to eat.
He looks down at it. The owl watches the fish flapping around on the ground. It breathes in and out a few times, flaps around a few more times, and then it is still. He picks the fish up by its tail and tosses it forward into the water where it lands with	Flapping sound	The owl looked down at the fish, who breathed in and out a few times. It flapped around once or twice and was still. The owl picked up the fish by the tail and tossed it forward into the water, where it landed with a splash	Owl stared at it, and he threw it back in the water. "Owls don't eat fish," he said.
a large splash, which grows larger and larger, finally engulfing the entire screen with texture. At first the splash is dark, but as it spreads to cover the screen, it becomes lighter and lighter until it fades entirely into white. Snowflakes are gently falling and as the	Large splash Wind sound	The splash grew and spread out and covered everything.	Time passed. It was winter. The snow fell. Owl's children grew big, as big as their mother. Their grey wings turn white. And one day many geese came. Owl and his wife and children stood among them.

The Film	Sound Effects	Descriptive Aural Text	Storyteller Text
snow begins to clear we can see the geese, now fully grown, flexing their wings among the flakes of snow.	Geese breathing		
They begin to flap their wings more and more rapidly until, at last, they are flying.		Then they began to flap their wings faster and faster, and soon they were flying.	Owl watched them spread their wings as if they danced the winter welcome. Then, one by one, the geese flew away/ Except for Owl's wife . . . she stayed beside him.
The only two still on the ground now are the goose and the owl, to her left. The owl has watched the other geese ascend and he imitates their motions with his small owl-wings. The goose is watching the owl.	Owl breathing	The only ones remaining on the ground were the goose and the owl. He was flapping his small owl-wings and the goose was watching him.	
She steps toward him, raising one of her own wings, and speaks to him.	Goose speaks	She moved toward him, raised one of her own wings and spoke to him.	But she said to him, "Owl, these are my people. I must join them and fly south for the winter. Will you wait for me? "Whoo me? Wait, I will fly with you!" "You are too heavy to come with us. We must fly over an ocean. There is no place for you to rest." "I won't grow tired." Owl was stubborn. So Goose agreed. She flew first, rising into the blue sky to meet the other geese.

The Film	Sound Effects	Descriptive Aural Text	Storyteller Text
The owl stands back as the goose begins to flap her large, luxuriant wings, ascending into the sky behind the other geese, who are already flying in their formation.	Owl speaks, pants	Then the owl stood back and she began to flap her large, luxuriant wings. She ascended into the sky behind the other geese who were already flying in V formation.	
The owl spins his head all the way around, finally facing skyward, and he is breathing heavily while flapping with all his might. At last he takes off into the sky and disappears.	Breathing	The owl set his body in flight position, spun his head all the way around and flapping furiously, was finally airborne. He was flapping with all his might and breathing with enormous effort. The owl managed to disappear off into the sky after the flock.	Owl beat his wings with all his strength and flew behind the geese.
We can now see the flock flying toward us from a great distance and as they arrive directly in front of us they take a turn to the left, flying in a V.	Geese breathing rhythmically	The geese, having flown some distance, now changed direction, all the while breathing rhythmically and keeping to their formation.	They flew in a perfect V.
As they fly by we see the owl, bringing up the rear and breathing more heavily than ever. He seems to be keeping up with the geese only by exerting an enormous effort.	Owl heavy breathing	The owl was trying very hard to keep up their pace and he was breathing very heavily from the effort.	Owl followed, struggling to keep up.
The flock continues flying high up in the sky, passing first the sinking sun and then the rising moon.		The flock continued their journey high up in the sky, passing first the sinking sun and then the rising moon.	They flew for many days over snow-covered earth.

The Film	Sound Effects	Descriptive Aural Text	Storyteller Text
Finally we see below them a body of water and they begin their graceful descent onto it. As the geese land on the water's surface we realize that it is night and we are viewing them reflected by moonlight.	Light splash Water sounds	Finally, they began their descent onto a dark body of water below. When the geese approached the pond, they slowed their flight until they landed.	One day, when the sun was very bright, Owl saw the geese descend. They swooped down as gently as clouds.
As the geese sit in the darkness grooming their feathers and resting, suddenly the owl falls from the sky and splashes down in their midst. The geese scatter.	Pronounced splash	As the flock sat in the moonlight groom- their feathers and resting, something fell from the sky and splashed into the water. The geese scattered.	Owl was tired. He was glad to rest. They were flying over what looked like dark earth. Turning downward, Owl tried to land slowly too, but as he drew nearer to the earth, he was it was not earth but water. But it was too late. Owl lost control of his wings and went tumbling into the dark sea. All the geese fled.
The goose watches as the owl thrashes around beneath the water. When the owl does not surface, she dips her head under and gently pulls him out. He is blinking and slipping down again so she pulls him up once more and carefully sets him in the water and speaks softly to him.	Active water sounds Gentle water sounds Goose speaks	The goose, seeing it was the owl in the water, dipped her head under and gently pulled him out. He blinked and slipped down again, but she pulled him up once more and set him carefully on the water and spoke gently to him.	But not Owl's wife. She reached into the water and lifted him up. Owl's feathers were heavy with water. "You must rest here until I return," said Goose.

The Film	Sound Effects	Descriptive Aural Text	Storyteller Text
Then she lets go of him and swims away, fading in the background. The owl is now seen in the center foreground as he extends his wings to either side from his body, trying to support himself on the water's surface. He looks down at the water, where he discovers his reflection. Now he examines his reflection more carefully, blinking, first one eye and then the other eye. He looks up and seems to shrug his shoulders as we hear	Gentle water sounds	Then she left him on his own and swam off, not far out of sight. The owl extended his wings on either side of his body to support himself on the water's surface. When he looked downward he saw himself reflected in the water. He began to examine his reflection more carefully, winking at it first with one eye and then the other eye. When he looked up, he just shrugged his shoulders.	Owl rested his chin on a piece of ice as clear as a mirror. His own eyes stared back at him. "I am rested," boasted Owl. "I will follow you."
The goose is in the background calling softly to him. He answers her, looking over his shoulder and appearing to sink slightly. The owl spreads his wings still further out over the water to prevent himself from sinking and the goose calls to him again from the distance. Again, he looks back over his shoulder to answer and this time he sinks farther into the water. He is now up to his neck in water. The goose calls to him and now as he turns to answer her we see the	Goose calls owl answers Goose calls owl answers Goose calls	The goose called to him from a distance. He looked back over his shoulder and answered her. He began to sink a little into the water, and he spread his wings out even farther. The owl heard the goose call to him again. When he looked over his shoulder to answer, he was sinking still lower into the water. The owl was up to his neck in the water by the time the goose called to him again. Now he was sinking so rapidly that a beak moving to answer the goose's call was the	Goose said, "My husband, wait for me. You are an owl and cannot swim as quickly as I can." Owl said, "I will learn to swim." And he let go of the ice. "My husband," called Goose. Owl's wings spread over the surface of the water. His feathers were so heavy they began to sink. Goose heard the honking cry of the others. "Owl, I must go." "I am coming," he said. But the owl sank deeper and deeper into the water. He sank up to his chin. "Owl, I must go." Owl sank up to his

The Film	Sound Effects	Descriptive Aural Text	Storyteller Text
owl sinking so quickly that his beak moving to answer the goose is the last part of him that we can see above the water-line.	Owl's answer is broken off. Rippling sound	last glimpse of the owl to be seen above the water.	beak. Owl sank up to his eyes. "My husband." But Owl sank beneath the water.
Then we see only circular lines rippling the water's surface, where the owl has just been. As the goose calls again the only response we can observe are bubbles just below the water's surface. The goose swims to the spot where the owl has gone under and she calls once more. Her image is fading and now we see only the bubbles.	Goose calls Gurgling sounds Goose's last call	There were only ripples on the water's surface when the goose arrived at the spot where the owl had been. She called to him for the last time, but the only answer she heard was the sound of bubbles under the water.	Goose came back. Goose dipped her head under the waves. "Goodbye Owl," she said.
We see the owl floating slowly under water. The bubbles from his mouth are traveling upward, toward the water's surface. The owl disappears downward and out of the frame at the bottom. Now we see only blackness and a line of white bubbles rising upward and out of the frame at the top. Then only blackness.	Sound of bubbles	The owl was sinking slowly down beneath the water. Bubbles were rising from his mouth and moving directly upward towards the water's surface. As the owl disappeared downward there was only blackness and a line of white bubbles rushing upward. Then, there was only blackness and the sound of bubbles.	She saw Owl's body falling to the bottom of the sea. Goose hovered above the water. She watched until the bubbles from Owl's breath vanished. She watched until the water was still.

APPENDIX B

A Story Based on an Eskimo Legend

An owl emerged from the dark bushes singing to himself and then a goose appeared. She was singing too. The goose began to build a nest and the owl watched her. He swept some of the material towards the nest with his foot. When the goose was finished, she sat down on the nest while the owl sang and danced and turned cartwheels all around her. The goose sat with her beak tucked into her back feathers quietly watching him. Then the owl came over to her, leaned close, and as he spoke softly to her it was as if hearts arose from his mouth. The goose answered him gently, and it was as if a heart arose from her too as she spoke. Just then, as the owl was about to answer the goose, something he heard interrupted him. The goose heard it too and she quickly got up off the nest. When they peered into the nest, it was full of eggs. The eggs were jiggling and shook. As the eggs cracked open, little goslings came peeking out.

When the goslings were completely hatched they spread their wings out. Strutting and squawking they began to walk, all in a line. The owl and goose followed. Then the goose moved into place right behind the goslings who were already dipping into the water. She splashed right into the water and swam after her little ones, leaving the owl standing all alone.

The owl looked after them and then he looked straight ahead and blinked. His eyes dropped down. He blinked again and walked toward the water, breathing heavily. He walked and breathed and walked some more. Suddenly, he stumbled, lost his balance and got one foot wet. He quickly backed away from the water with the other foot. Standing and gazing into the water, the owl saw a fish jump up and fall back again with a splash. The owl again tried dipping his foot into the water, but he looked up, rolled his eyes, and cringing, removed his

foot. He took a small step away from the water, blinking, shrugging his shoulders and talking to himself.

Then the owl began to walk along the curve of the pond, pacing toward the far end. As the goslings and their mother swam towards him, he heard them peeping and squawking. The owl continued pacing and breathing heavily.

The goslings were squawking wildly now and the goose was watching the water. Suddenly a fish darted quickly by her and she stretched her neck in its direction, but it was too quick for her. Just then, three more fish swam by. One of them hesitated a moment, and the goose opened her mouth, about to grab it, but again the fish got away. Finally, another fish swam by and this time the goose swiftly plucked it out of the water with her beak. The goslings were watching her movements carefully and they reached their little necks and beaks out toward her. The goose extended her neck upward and swallowed the fish. It traveled down her throat right into her stomach, where it swam around until it was digested. Another fish came along and again the goose plucked it right out of the water. This time she fed it to the goslings.

During all this activity in the water, the owl was still pacing back and forth at the far edge of the pond. The goose and goslings were watching the water and when a school of fish swam by, the goslings followed it. The goose watched them go. As soon as they were out of sight she dipped her head beneath the water, pulled up a fish, and tossed it onto the shore where it landed at the owl's feet. Then she swam off after her little ones. The owl looked down at the fish, who breathed in and out a few times. It flapped around once or twice and was still. The owl picked up the fish by its tail and tossed it forward into the water, where it landed with a splash. The splash grew and spread out and covered everything. . . .

Snowflakes were falling and the geese, now fully grown, were flexing their wings among the flakes of snow. Then they began to flap their wings faster and faster and soon they were

flying. The only ones remaining on the ground were the goose and the owl. He was flapping his small owl-wings and the goose was watching him. She moved toward him, raised one of her own wings and spoke to him. Then the owl stood back and she began to flap her large, luxuriant wings. She ascended into the sky behind the other geese who were already flying in V formation. The owl set his body in flight position, spun his head all the way around and, flapping furiously, was finally airborne.

He was flapping with all his might and breathing with enormous effort. The owl managed to disappear off into the sky after the flock. The geese, having flown some distance, now changed direction, all the while breathing rhythmically and keeping to their formation. The owl was trying very hard to keep up their pace and he was breathing very heavily from the effort. The flock continued their journey high up in the sky, passing first the sinking sun and then the rising moon. Finally, they began their descent onto a dark body of water below. When the geese approached the pond, they slowed their flight until they landed. As the flock sat in the moonlight grooming their feathers and resting, something fell from the sky and splashed into the water. The geese scattered.

The goose, seeing it was owl in the water, dipped her head under and gently pulled him out. He blinked and slipped down again, but she pulled him up once more and set him up carefully on the water and spoke gently to him. Then she left him on his own and swam off, not far out of sight. The owl extended his wings on either side of his body to support himself on the water's surface. When he looked downward he saw himself reflected in the water. He began to examine his reflection more carefully, winking at it first with one eye and then the other eye. When he looked up, he just shrugged his shoulders. The goose called to him from a distance. He looked back over his shoulder and answered her. He began to sink a little into the water, and he spread his wings out even farther. The owl heard the goose call to him again. When he

looked over his shoulder to answer, he was sinking still lower into the water. The owl was up to his neck in the water by the time the goose called to him again. Now he was sinking so rapidly that a beak moving to answer the goose's call was the last glimpse of the owl to be seen above the water. There were only ripples on the water's surface when the goose arrived at the spot where the owl had been. She called to him for the last time, but the only answer she heard was the sound of bubbles under the water.

The owl was sinking slowly down beneath the water. Bubbles were rising from his mouth and moving directly upward towards the water's surface. As the owl disappeared downward there was only blackness and a line of white bubbles rushing upward. Then, there was only blackness and the sound of bubbles.

APPENDIX C

The Owl Who Married a Goose

Retold from Eskimo Legend by Laura Simms

Owl was lonely. Until one spring, he fell in love with a goose. She had small eyes, white fluffy feathers and a long graceful neck. Owl and goose were married.

One day, goose began to gather leaves from a berry bush, down from her back, and feathers from owl's dappled wings. She laid it all in a circle and made a nest. Owl padded the feathers down to make them softer, and goose sat down on the nest. Owl watched. His eyes widened, his heart beat wildly.

When goose and owl spoke, it was as if their words were hearts. Goose nestled her long neck against her wings and rested. Owl jumped up and down. His feet danced out a rhythm on the earth. His big eyes blinked open and closed.

He sang, "I am an owl. Whoo-whoo
My eyes are round
My belly is fat
My claws are sharp
I am an owl. Whoo-whoo.

My wife is a goose
Her neck is long
Her wings are strong
When she walks, her footprints
are like stars."

Then goose gently looked at owl and sang,

"How happy I am to see your heart-
shaped face,
to hear your hooting voice
to see your joyful dance."

Goose stood up. Owl saw five eggs in the nest. The eggs jiggled and shook. One by one they opened. Tiny grey goslings pushed their way out. Goose plucked their grey down and they began to squeak and squawk. All this owl saw.

Owl's wife led the babies to the lake, one, two, three, four, five, they swam behind their mother.

Owl followed, but when he put one foot in the water, it was cold. He put the other foot in the water, it was wet. A

fish jumped in the air and dove back into the water. Owl thought, "It's too deep." So owl watched goose lead the babies to the middle of the lake. They shook their tails. They learned right and left, back and forth, fast and slow. They learned to dive for fish to eat.

Meanwhile, owl walked along the shore of the lake. Round and round he circled the lake to watch them until he was weary. And he walked round and round.

Goose brought owl a fish to eat. Owl stared at it, and he threw it back in the water. "Owls don't eat fish," he said.

Time passed. It was winter. The snow fell. Owl's children grew as big as their mother. Their grey wings turned white.

And one day, many geese came. Owl and his wife and children stood among them. Owl watched them spread their wings. They flapped their wings as if they danced the winter welcome. Then, one by one, the geese flew away.

Except for owl's wife. She stayed beside him. But she said to him, "Owl, these are my people. I must join them and fly south for the winter. Will you wait for me?"

"Whoo me? Wait. I will fly with you!"

"You are too heavy to come with us. We must fly over an ocean. There is no place for you to rest."

"I won't grow tired." Owl was stubborn. So goose agreed.

She flew first, rising into the blue sky to meet the other geese. They flew in a perfect V.

Owl beat his wings with all his strength and flew behind the geese. They flew for many days over snow-covered earth. Owl followed, struggling to keep up. One day, when the sun was very bright, owl saw the geese descend. They swooped down as gently as clouds.

Owl was tired. He was glad to rest. They were flying over what looked like dark earth. Turning downward, owl tried to land slowly too, but as he drew nearer to the earth, he saw it was not earth but water. But it was too late. Owl lost control of his wings and went tumbling into the dark sea.

All the geese fled. But not owl's wife. She reached into the water and lifted him up. Owl's feathers were heavy with water. "You must rest here until I return," said goose.

Owl rested his chin on a piece of ice as clear as a mirror. His own eyes stared back at him.

"I am rested," boasted owl. "I will follow you."

Goose said, "My husband. Wait for me. You are an owl and cannot swim as quickly as I can."

Owl said, "I will learn to swim." And he let go of the ice.

"My husband," called goose.

Owl's wings spread over the surface of the water. His feathers were so heavy they began to sink.

Goose heard the honking cry of the others. "Owl, I must go."

"I am coming," he said.

But owl sank deeper and deeper into the water. He sank up to his chin.

"Owl, I must go."

Owl sank up to his beak. Owl sank up to his eyes.

"My husband."

But owl sank beneath the water.

Goose came back. Goose dipped her head under the waves. She saw owl's body falling to the bottom of the sea.

"Goodbye owl," she said.

Goose hovered above the water. She watched until the bubbles from owl's breath vanished. She watched until the water was still.

APPENDIX D

OWMAG Interview

INTRODUCTION

Do you like to watch films/listen to stories? I'd like to show you a story on film/listen to a story with you. It's an Eskimo folk legend about an owl and a goose. I want you to watch/listen carefully because we will go over the story later. Do you have any questions before we begin? Okay, are you comfortable and ready for the story? Let's watch/listen now.

PRESENT STORY

(Observe behavior and attention level. Note any specific behaviors during presentation related to specific story episodes.)

POST STORY

(Be sensitive to pause.)

Now I'd like you to tell me the story as well as you can remember it. Do you remember how it began? (If help is needed getting started): "(An) Owl is alone until . . . ."

Very good. (Pause) Do you remember anything else?

A. How did this story make you feel? Why?

B. Was there any part of the story you didn't understand?

C. Was there any part you didn't like? Why not?

D. Which part of the story did you like best? Why?

EXPLANATION OF STORY QUESTIONS

Now I'm going to ask you some questions about certain parts of the story and we'll kind of go through it in order from beginning to end. For some questions I'll give you two ways of answering. One way will be to show me what happened. Don't use any words, just act it out using your hands, face, and/or body; and the other way will be to tell me in words. Just do the best you can.

First, I'd like you to choose an incident in the story that you would like to act out for me, without using words and we'll see if I can guess which place you chose.

That's good. I'll bet that's when . . ./ I don't think I can tell, will you tell me?

All right, there will be other opportunities to act things out, but from now on, I'll give you the places where I want you to do it.

STORY QUESTIONS

1. Do you remember when (the) Goose was sitting on the nest and (the) Owl was turning cartwheels/dancing out a rhythm on the earth?
   a. How was (the) Owl feeling then?
   b. When (the) Goose was sitting on the nest (watching the Owl), what was (the) Goose thinking?
   c. How do you know?

2. Do you remember when (the) Owl and (the) Goose spoke in hearts to each other? What were they saying?
   a. (The) Owl?
   b. (The) Goose?
   c. How do you know?
   d. So how did (the) Owl and (the) Goose feel about each other?

3. What is it about (the) Owl that (the) Goose ( )?
   What is it that she ( ) about him?
   What is it about (the) Goose that (the) Owl ( )?
   What is it that he ( ) about her?

4. Can you <u>show</u> me how (the) Owl and (the) Goose reacted when the eggs began to hatch?
   Now <u>tell</u> me what their reactions were.

5. Do you remember when (the) Goose and the goslings went into the water?
   a. How did (the) Owl feel then?
   b. How do you know he felt that way?

6. Now <u>show</u> me how (the) Owl reacted when he got his foot wet.
   a. What did (the) Owl say to himself then?
   b. How did he feel?

7. (FILM CHILDREN ONLY) When the Owl walked toward you and came closer and closer, did you know anything about him then that you didn't know before?

8. Do you remember when (the) Owl threw the fish (the) Goose had given him, back into the water . . . and then after that many geese were flapping their wings getting ready to fly?
   a. How much time passed, from the first thing I described to the second?
   b. How do you know?
   c. What were (the) Owl and (the) Goose and the goslings doing during that time?

9. When (the) Owl and (the) Goose were the only two still on the ground after the other geese had flown off, what do you think they were saying to each other?

10. I'd like you to show me how (the) Owl looked when he was trying to keep up with the geese.
    a. How did he feel then?
    b. How do you know he felt that way?

11. How much time did it take the flock to get to the place where they landed? What makes you think it took that long?

12. Describe how the geese landed on the water.
    How did (the) Owl land?

13. What did (the) Goose say to (the) Owl after she pulled him out of the water?

14. Can you show me how (the) Owl reacted when he noticed his reflection/he rested his chin on a piece of ice and his own eyes stared back at him?
    How did that make him feel?

15. When (the) Goose called to (the) Owl and he answered her (it happened a few times), what were they saying to each other?

16. At the very end, what happened when (the) Goose looked for (the) Owl?
    a. What happened to (the) Owl? Why?
    b. What happened to (the) Goose?
    c. How did she feel?

17. Did (the) Owl make any mistakes?
    a. Why did he do those things?
    b. So what's the point of the story?

18. If you could be one of the characters in this story, who would you want to be?

    a. (The) Owl?
    b. (The) Goose?
    c. One of the goslings?
    d. Why?

19. What do you think would be a good title for this story?

20. Did you like the story?
    Why/why not?

21. On a scale of 1-10 (one being pretty bad and ten being excellent with five being somewhere in the middle) how would you rate it?

22. Would you recommend it to other kids your age?
    Why/why not?

23. (FILM CHILDREN ONLY) Would you rather have English words to go along with the pictures or is it better without them?

    (AUDIO CHILDREN ONLY) Do you think this story would make a good film or TV story?

POST INTERVIEW

Okay, we're all done. You've done a really good job. Thank you. Now do you have any questions you want to ask me?

One more thing; I'm going to be working with other children so I'm going to ask you not to talk about what we did today. That way, it won't spoil it for the others.